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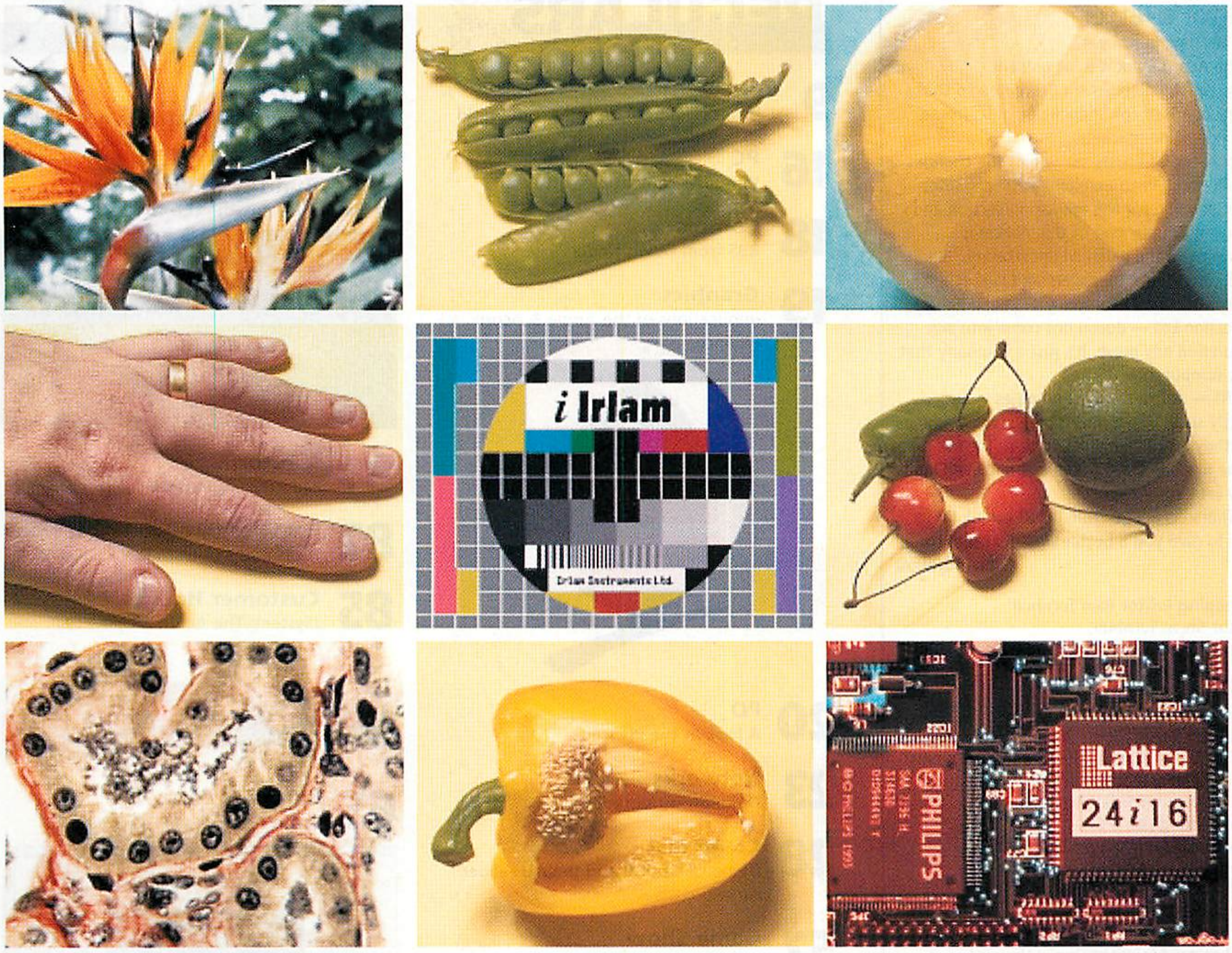
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IDG MEDIA

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Access
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Editor's letter

Are we having fun yet?

The Acorn market is, at present, experiencing ructions that threaten to shake every ounce of confidence out of its home and education markets.

From the company viewpoint the changes are all good, with excellent partners, safer sales position for the education section and so forth. But our end of the market is quivering in the midst of uncertainty.

The first thing to understand is that the new Acorn-Apple company — called Xemplar Education Ltd — doesn not come into any calculation any more. It's just a company that sells somputers.

ART — Acorn Risc Technologies — is, strictly speaking, a development company but they are the ones we look to for the home market and it's where the Acorn Clan is now located.

Where do we go from here? I think I'll be able to give you a better idea next month.

Steve Turnbull

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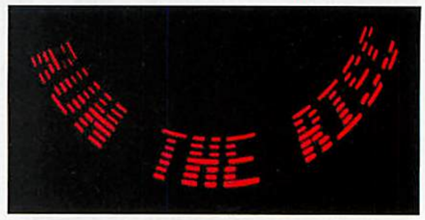
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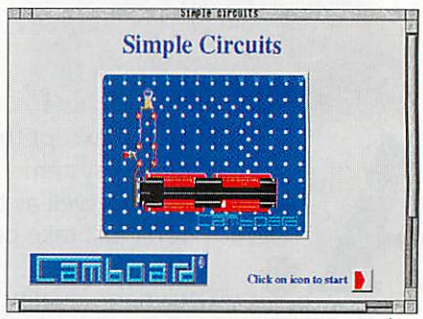




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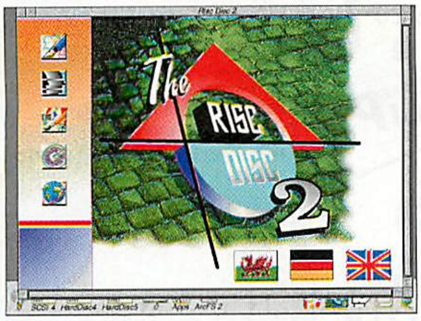
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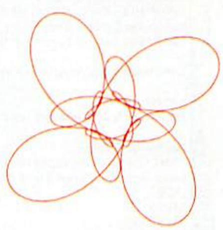




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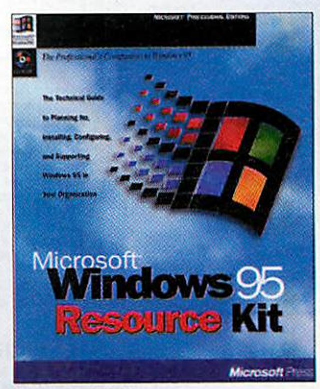
FEATURES



Wakefield Acorn Spring Show
Sunday 19 May 1996
See page 55 for all the details







Next month in Acorn User



- How the West was drawn — Walter Briggs starts a brand new series exploring bitmap graphics packages in depth from the artist's viewpoint.
- A shot in the dark — Karen Peach finds out how RISC OS computers are being used in laser tag games.
- Plus all the latest news and regular features

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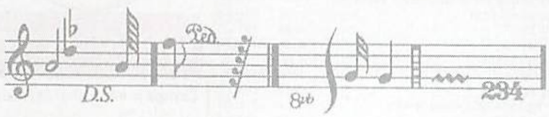
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Price £149 + £6 p&p + VAT (£182.12 inc.)

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Price: £69 + £6 p&p + VAT (£88.12 inc.)

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News

Eidos nets deal with Oracle too

Eidos has followed in Acorn's footsteps and secured a deal with Oracle. Eidos is a London-based software company specialising in video compression engines. The company's first commercial products included low cost professional video editing systems which ran on Archimedes A540 hardware. Later, Computer Concepts bundled the Eidos Eidoscope video editing package with their Eagle multimedia card.

Central to Eidos' *raison d'être* is the philosophy that highly optimised software can achieve comparable results to hardware-based video codecs (compression/decompression engines). To date, Codec chips have been quite expensive and Eidos has argued that standards like MPEG (motion picture experts group) are old and inefficient. Stephen Streater, co-founder of Eidos, is on record as saying that, as microprocessors get faster, MPEG's future is threatened by the work of companies like Eidos and that his company, in particular, is leading the attack on hardware codec standards like MPEG.

Eidos started its work using the Acorn platform because, at the time, it was the best choice for developing software codecs. Eidos has been predicting that it will be able to match full-screen, full frame-rate MPEG video using just software. Ironically, PC processor technology has been pushed forward by Intel in the last year and there are now software versions of the MPEG codec standard which can work satisfactorily using something like a 120MHz Pentium PC or higher.

However, Eidos has been capable of producing remarkably good results using relatively modest – and inexpensive – systems, like 30MHz ARM-based computers. This hasn't escaped the attention of Oracle, whose commitment to the ARM looks stronger by the day, thanks to Acorn's ability to provide the basis for Oracle's much heralded NC Internet surfer. On March 19, Eidos announced it had signed a non-exclusive technology licensing deal with Oracle allowing them to incorporate Eidos video compression technology in 'a wide range of products.' Eidos' chief executive, Charles Cornwall, explained: 'This deal represents the next stage of many years' work in the development of a technology which, we believe, is capable of becoming an industry standard.' He also emphasises the point that the technology was still available to other customers besides Oracle.

Right from its start over four years ago as a venture capital funded concern, Eidos has attracted huge stock market interest. The company's shares have consistently out-performed the market and the Oracle deal pushed Eidos' share price new dizzy heights. The fact that Eidos is still relatively tiny – its half year to the end of June 1995 saw a turnover of just £96,128 and an operating loss of £268,411 – seems irrelevant to keen investors.

Streater looks like being right about MPEG – its success in the Video CD market has been poor – mainly because quality is variable and you can only fit just over an hour's worth of video on a single CD. However, most industry attention seems to be re-focusing on MPEG2, which promises top-notch feature-length video quality on the new higher-density DVD CD standard, announced at the beginning of the year.

Eidos doesn't look like being an industry standard setter in that particular market, but prospects look much brighter where compact software video codecs are concerned and there is no better example of such an environment as the Internet. Eidos has been porting its technology to processors other than the ARM but the Oracle deal would suggest that Eidos' long-term ARM experience has suddenly emerged as a very useful advantage.

Interactive TV market waking up

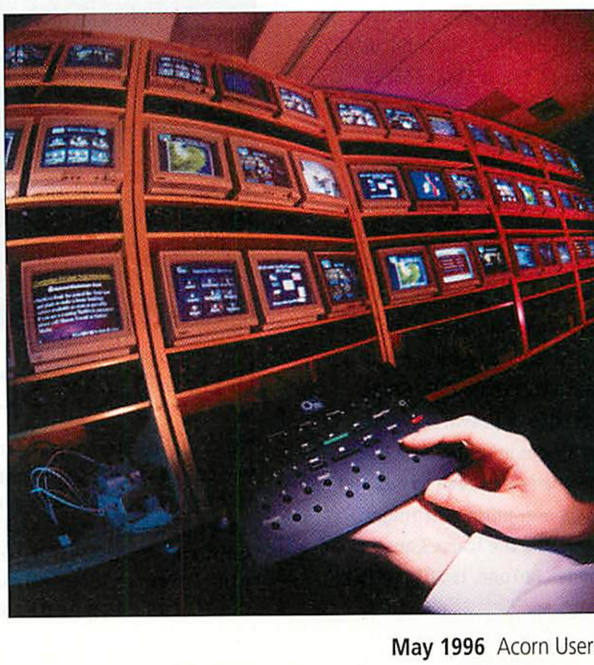
Online Media, Acorn's interactive TV division, had high hopes tempered by setbacks last year. Most notable was the cancellation of the order for Lightspan STBs destined for US schools. Various factors have held up the expected introduction of commercial scale interactive TV services, but in March, Germany made noises that it would approve funding towards the creation of an interactive TV service for around 100,000 homes and BT has hinted that it will invest £500 million in a large scale trial of video on demand services at various sites around the country.

To date there have been several small-scale interactive TV technology trials like the Cambridge Trial, which Online Media is heavily involved in. BT has already spent an estimated £30 million on a medium-scale trial serving 5,000 homes in Colchester. BT statistics suggest that average use of its video on demand service is about five hours a week, with 20 per cent of users clocking up 10 hours a week. One household regularly uses the service for 40 hours a week.

Pay-per-view service, whereby users can immediately watch scheduled programmes when they prefer – even before scheduled transmission by the conventional networks, has apparently proved popular. BT, which delivers its video service over ordinary telephone lines, has so far used STBs based on Apple technology, but BT's Westminster Cable subsidiary also uses Online Media STBs.

One can only speculate that if BT invests heavily in further trials, Online Media has more than an outside chance of getting some business – Online Media has always claimed it is ready to adapt its STB designs to most standards currently being trialed and they appear to have the cheapest STB and one that is closest to full-scale production. The same conclusion can be drawn in response to the news from Germany. However, nobody will be counting their chicks at Online Media – there have been false hopes before.

Incidentally, Online Media's official name is now Acorn Online Media, which shortens to AOM. ART now stands for Acorn RISC Technology instead of Applied RISC Technology and the new Network Computing division is to be officially known as Acorn Network Computing – or ANC.



Oracle uses ANT web browser

ANT's Fresco Internet Web browser has been adopted by Acorn as part of their work to develop the Oracle NC reference platform. Malcolm Bird, chief of both Acorn Online Media and Acorn Network Computers, commented: 'ANT's Fresco web browser is both fast and flexible. ANT offered a good starting point and the ability to deliver features we required.' ANT sales and marketing director, Alex van Someren also noted that it was hoped that there would be beneficial spin-offs from the Oracle project which could be useful for ANT's more traditional desktop computer using customers in the future.

Tanzania on CD-ROM

Creative Curriculum Software has released *'Tanzanian Village Life – A Special Kind of Strength'* – a CD-ROM which demonstrates how Elizabeth Mchaki lives her life in a Tanzanian village. The CD-ROM itself, authored by EMMA and Leeds DEC, contains pictures, maps, plans, motion video clips, text with a speech option and sounds. It has an optional teacher's handbook and video. The CD-ROM is priced £49 + VAT, with the handbook and video priced £69 + VAT. A site £99 + VAT licence is available. Creative Curriculum Software, tel: (01422) 340524, fax: (01422) 346388.

Recycle those cartridges

Re-cycled ink-jet cartridges are now available from ReTone, which has until now specialised in recycling conventional toner cartridges for laser printers. The part exchange price for your old Hewlett-Packard HP51626a cartridge with two recycled cartridges in return is £19.80. ReTone is also keen to buy certain used laser printer cartridges, especially the scarce Canon LPB-4 model. ReTone, tel: 0161-839 0500.

Acorn's balance sheet

Acorn Computer Group suffered a 24 per cent slump in turnover during the year ending December 1995, from £50.4 million the previous year to £38.5 million. Sales to end customers were down 18 percent, while margins squeezed further and large amounts of unsold stock had to be written down. Inevitably, costs were pruned hard and 80 staff were made redundant, 30 per cent of the overall head count.

Acorn also started renting out spare space at Acorn House and the plan is to eventually move entirely from Vision Park to smaller premises by the end of April. ART has already relocated to Newmarket Road, where they will be neighbours with Online Media. The loss-making Acorn Germany was closed last year. Costs in running traditional business, education and enthusiasts sales in other words, were reduced by 12 per cent, however, this was not enough to counter the slump in sales and a £7.1 million operating loss was recorded for the year, compared with a £1 million loss in 1984. Overall pre-tax losses amounted to £12.3 million.

The bad news was not lifted at Online Media. Although OM's prospects remain exciting in the long term, the market it is positioned for – digital interactive TV – has yet to grow to a truly commercial scale. Acorn says many of Online Media's prospective customers in the US have deferred plans to implement broadband networks suitable for OM DiTV set top boxes because of regulatory changes there. The much-heralded Lightspan order for STBs, which would have been installed in US schools, also fell through and Online Media is considering legal action.

Europe usually follows the US, so there is no immediate prospect of volume business closer to home. However, the Internet could be Online Media's saviour after the announcement of the Oracle NC terminal development deal. ART and Online Media will work together on the project which belongs to another new division to specialise in Network Computing.

Advanced RISC Machines Ltd continued its steady growth, beating £10 million turnover for the year for the first time and delivering £3.3 million in profits compared with £3.1 million in 1994. 112 people now work for ARM Ltd, up by 34 on the year before. At this rate, ARM Ltd will have a higher head count than Acorn.

Officially, Acorn is not expecting to return to profitability by the second half of this year. More re-structuring needs to take place and time will be needed for the new Acorn/Apple education alliance to get off the ground. If you wondered what happened to the £17.1 million raised in the rights issue early in 1995, it has almost entirely been used. After £8.5 million was used to eliminate Acorn's bank borrowing, £4.2 million went to Online Media and ACL absorbed £3.8 million. £600,000 remained in the bank on December 31. Despite all the bad news, Acorn's share price remains buoyant at the time of writing at around 220p.

SEMERC Mouser 2 and Switchbox

The obvious way to stop kids being distracted at the start of the lesson – when they might accidentally click on a mouse button – is to disable the mouse buttons. This is what the Switchbox for SEMERC's new Mouser 2 does. Mouser 2, made for SEMERC by the Concept Keyboard Company, now has a pair of jack sockets, enabling two different pointer devices, like a mouse and a trackball, to be connected at the same time. Another version of Mouser 2 adds switched control of the attached mouse buttons. Mouser 2 is priced £49 + VAT. SEMERC, tel: 0161-627 4469, fax: 0161-627 2381



Integrex speaks its mind

This has to be a first, in the Acorn market at least – a printer which speaks to you via your computer. The new ColourJet TwinMaster printer from Integrex communicates its status and any error messages to the printer driver, which has a speech synthesiser built in. As long as your Acorn RISC computer has a speaker connected, you will be able to hear status reports and warnings. The printer driver also has an on-screen ink reservoir gauge. The ColourJet TwinMaster is priced £279 + VAT. Integrex Limited, tel: (01283) 551551/550880, fax: (01283) 552028.

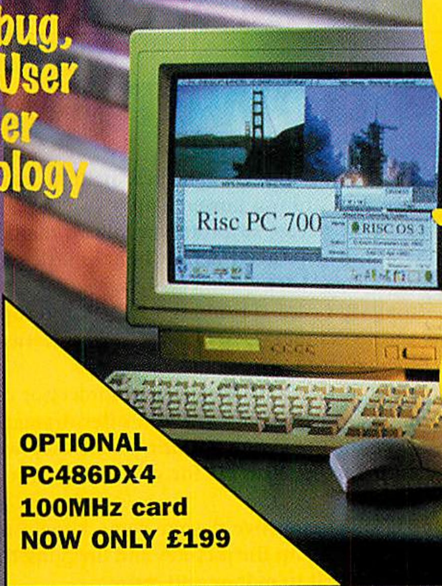
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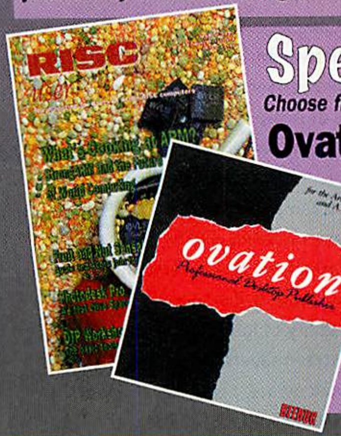
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Ultimate power

Acorn Risc Technologies announced that at 11:12 on Tuesday 26th March 1996, the first prototype Risc PC StrongARM Processor Card was powered up.

This experimental card, using a first release of prototype silicon managed to achieve an internal clock speed of 228MHz and produced a first benchmark reading of 290,000 Dhrystones running Risc OS.

At the time of writing, the StrongARM card is running RISC OS and supporting a number of applications such as !Draw and !ChangeFSI, Artworks viewer, Network stack and the Intertalk web browser.

Based on the experience gained with the PC cards and multiprocessor cards, ART are now confident that a cacheless Strong ARM processor card will offer dramatic and significant performance improvements. As a result of this ART confirm that they will be producing a cacheless StrongARM upgrade card for the Risc PC for sale when large quantities of the StrongARM schip are available.

In use the system is very quick and responsive despite some known inefficiency in the prototype system. While testing and setting up the pictures and dragging the Mona Lisa JPEG around in !Draw there was no waiting for it to redraw and resize.

Here are some rough timings:

Test	A	B	C	D
ARM 710 40MHz	2.98	1.78	12.1	13.7
StrongARM SA110	0.72	0.60	4.2	5.3
Speed-up	4.14	2.97	2.9	2.6

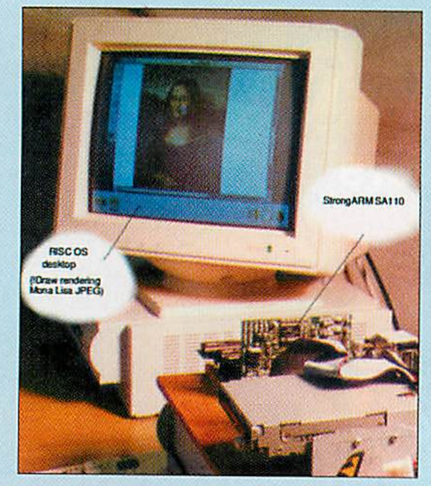
Test A: Mona Lisa JPEG processed by !ChangeFSI into 256 colour sprite. Timings obtained from !ChangeFSI.

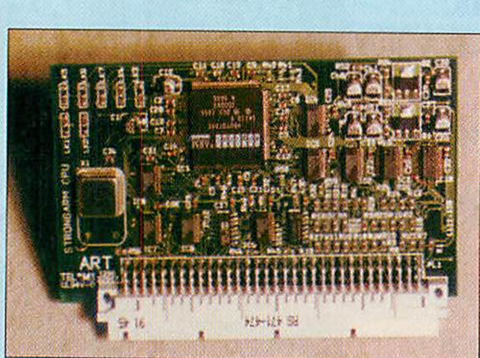
Test B: As test A, but into 32,000 colour sprite. Timings obtained from !ChangeFSI.

Test C: Screen redraw including !AWRender (Artworks renderer) "Apple" file in 256 colours. Timings obtained manually.

Test D: As test C but in 32,000 colours. Timings obtained manually.

If you're wondering about the apparent discrepancy between the chip clock speed increase (6 times faster) and the delivered power increase (about 3 times faster) bear in mind the machine architecture is designed for the slower chip.





Acorn Expo'96

Despite the failure of Acorn Germany, continental enthusiasm for all things Acorn remains unbowed. The Big Ben Club in the Netherlands is to hold another annual show, re-named Acorn Expo'96. The venue is the Hotel Mercure in Nieuwegein, which is near Utrecht and not too far from Amsterdam. Acorn Expo'96 will be held on Saturday June 22 instead of October. Besides the Dutch contingent, it's expected that several dealers and developers from Germany will also be featuring their wares at the show. The hotel is offering discount rates for visitors requiring accommodation. Changes to the planning of the new show are credited as the work of an all-new Big Ben club committee.

If you are interested in attending the show either as a visitor or an exhibitor, contact Herman Corjin by fax on +31 714 080 339.

SCSI 2 competition winners

After much umming and ahhhing over the tie-breaker the winners of the competition are, Steve King of Horley, Surrey and Sten Haugaard from Denmark.

You'll be receiving your SCSI 2 card from Alsystems soon. Well done.

Iota on the Web

Iota Software has set up its own Web site (http://www.iota.co.uk). The site will be a complete online guide to Iota's products, including *The Complete Animator*, *DataPower* and the forthcoming DataPower Server service for users of Acorn SchoolServers and other Windows NT-based network servers.

You can also download software patches, demos and upgrades from the site and an added bonus is the free availability of Iota's impressive new screen savers, which are network aware, peer-peer and compatible with RISC OS as well as Windows 95 and Windows NT. Iota Software, tel: (01223) 566 789, fax: (01223) 566 788, e-mail: admin@iota.co.uk.

Canon trim portable bubble jet prices

Canon's neat BJ-30 and BJC-70 portable bubble jet printers are now more affordable. The monochrome BJ-30 is now cheaper by £30 in Canon's price list, down to £169. The colour BJC-70 model drops £40 to £259. Both printers produce excellent results, especially on coated paper, though they are a little slow compared to their desktop siblings. Computer Concepts has developed Turbo Drivers which support the BJ-30 and BJC-70. Canon, tel: 0121-680 8062, fax: 0121-693 5070.

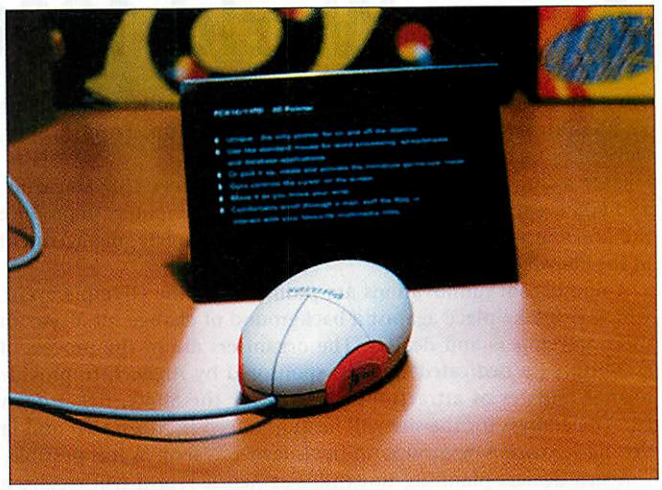
Apologies

We would like to point out that the product PadLock reviewed in last issue is now known as WatchDog and the junior version as WatchPup. Apologies go to Base5 Technical Graphics.

Philips 3D mouse

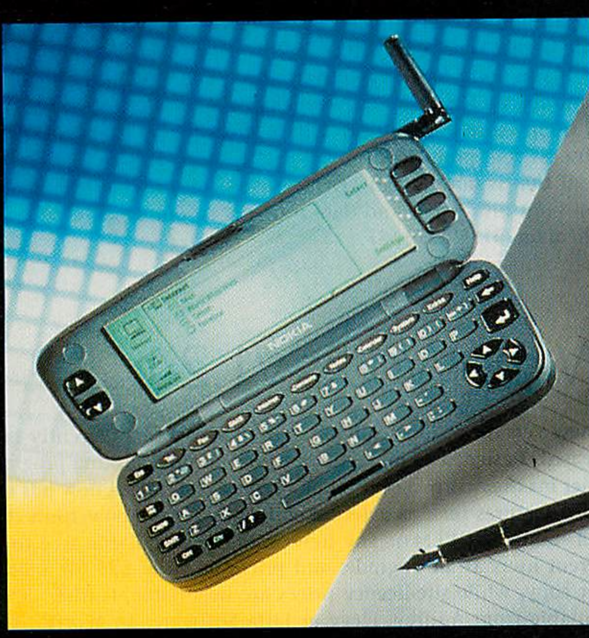
Mice are great, except you can't usually use one without a clean flat surface to run them about on. Try using a mouse when you're standing up during a presentation, for example. Philips might have just the answer – a 3D mouse. Unlike other 3D pointing devices, the Philips GyroPoint mouse doesn't use infra-red or other externally oriented position sensors. Instead, the new Philips mouse is conventionally tethered via a cable to an industry standard connector and uses an internal gyroscopic motion sensor.

The egg-shaped device works just like a conventional mouse when positioned on a flat surface, but when you lift it up the mouse pointer also moves up. For use when being held in 3D mode, there are two large red buttons on either side of the main mouse buttons and these make clicking easier when the mouse is gripped by your hand. The up and down motion of the mouse does take some getting used to, but it really does work. Unfortunately, Philips does not yet have a three-button version of its mouse, though the two-button model should work with later Acorn RISC OS machines.



Nokia illustrates future prospects for ARM

Mobile phone maker, Nokia, has announced its latest baby – the 9000 Communicator. You could almost describe the Communicator as a Psion Series 3 or Acorn Pocket Book with a built in digital mobile phone. The £900 Nokia is based on the same Intel x86 compatible 16-bit processor as the Series 3 and Pocket Book and runs a rather re-cycled operating system, called GEOS, which has survived from the days before Microsoft started earning money from Windows. However, the package does include business applications, e-mail and an Internet facility. What it really needs is an ARM processor inside and the Nokia is a perfect example of the kind of application ARM Ltd and ART are desperately hoping to conquer in the years to come.



Correction

In last month's issue the Business section inadvertently suggested that Acorn had launched a new portable computer, code-named Stork. The pictured pen-operated tablet computer is in fact called a NewsPad and is a technology demonstrator developed by Acorn's ART division.

There are no plans to put the NewsPad into production. Stork is the code-name for the intended replacement for the A4 Portable, an Olivetti Echos-based subnotebook laptop computer. Development of Stork is quite advanced and *Acorn User* has seen the pre-production prototype with a colour LCD screen. However, Stork is not now expected to enter production as planned, though ART says the project can be put back into gear should there be a suitable commercial opportunity.

Oracle breakthrough

You have to smile when reading press releases sometimes. Oracle debuted the Acorn-inspired Network Computer (NC) at a developers conference in San Francisco at the end of February. The official Oracle press release read: 'breakthrough technology makes text and graphics clearly viewable from 10 feet away on a television set.'

How long have Acorn users been enjoying the benefits of anti-aliasing? Larry Ellison, Oracle's charismatic CEO, personally demonstrated the NC. He said: "My mother is a key tester of the network computer. If my mother can't use it, we don't have a network computer." You said it, Larry.

Custodian details

The price of Custodian, reviewed last month, is £10. If you would like to buy a copy they accept cheques only made payable to Byte Back Computing at PO Box 40, Nottingham, NG5 6SS.

New dates and Venue for Acorn World 1996

The 1996 Acorn World exhibition has moved from its October dates at Wembley to Hall Two at Olympia, London, from Friday, November 1st to Sunday 3rd.

Once again, the event will be sponsored by *Acorn User* Magazine, and *EPS Events Ltd*, who worked with Acorn Computers to produce the previous two events, will take over the complete managem ent of the Show.

A number iof iunnovations are promised for the Olympia event, which will take place against a background of change for all Acorn users, developers and dealers. The organisers are in the process of establishing a dedicated website, sponsored by *Argonet*, to provide regular updates of attractions planned for the Show, ticket deals etc. The address for the site will be announced in *Acorn User* and in the main Acorn newsgroups on the Internet as soon as it is possible.

Acorn dealers planning to exhibit at Acorn World will receive a regular newsletter giving details of the best ways to optimise their presence at the Show, previewing special events and features and offering tie-ins to promitional activity.

Pre-event publicity and information is in the hands of *Shared Vision*, appointed by *EPS* to handle press and public relations, and organise special events. Among the attractions planned will be a 'Fring' seminar programme, scheduled for opening day Friday November 1st. This will consist of a series of seminars, workshops and demonstrations in a designated area away from the main exhibition floor, to allow committed and professional users of Acorn computers an opprotunit for serious examination of techniques, issues and developments in education, publishing, the graphic arts, music etc.

The 'Fring' is intended to be more than a commercail preview of new products. It is designed to meed the needs of all types of serious Acorn users and seminar subject suggestions are welcomed by the organisers. Anyone wishing to contribute ideas and suggestions, or needing advance information prior to the establishment of the website can contact Barry Ricketts at *Shared Vision on s.vision@argonet.co.uk*

Acorn WORLD

Apple lights up MessagePad PDA

Apple has introduced a new version of its ARM-powered Newton MessagePad PDA (personal digital assistant) at the annual CeBIT show in Hanover, Germany. The most significant improvement in the MessagePad 130 is a new EL backlight for the LCD display. Externally, the 130 looks much the same as its 120 sibling, which was introduced six months ago. If you're patiently waiting for a more powerful Newton, perhaps with a Digital StrongARM inside, you'll just have to continue being patient. The Newton 130 has a list price of $799, or about £515.

Take it or leave it

Bad luck has hit a couple of Acorn luminaries in recent weeks. Paul Beverley of Norwich Computer Services recently reported that a delivery of Risc PCs from Acorn arrived minus 3 machines. NCS, Acorn and the courier can't agree on who is to blame for the missing machines, but if you have recently acquired a new Risc PC with the any of the following serial numbers, I'm sure all parties would like to hear from you: ACB60 1011100, ACB70 1010908, ACB75 1011195.

Meanwhile, Acorn stalwart and Computer Concepts spin doctor, Gordon Taylor, suffered a mixed fate when his car was stolen in Leeds recently. Although Gordon's Vauxhall Cavalier CD has not been seen since, his sensibly marked computer gear, including a Risc PC, which was in the car when it went missing, was later found on waste ground by the police in Wakefield.

LOOKsystems to the rescue

Disc Rescue from LOOKsystems is designed to repair and recover both hard drives and floppy discs on most RISC OS systems. It contains three easy-to-use utilities and a sophisticated disc editor for the more experienced among us. It is also accompanied with a manual to guide you through all the repair and recovery process. A single user copy costs £35 and a site licence is priced at £100.

If you don't fancy dabbling yourself LOOKsystems also offer a no fix, no fee Data Recovery Service. This is priced at £10 for a floppy disc and £50 for a hard disc so give them a call to discuss your problem.

If that is not enough LOOKsystems will provide free advice on both disc repair and data recovery so don't panic just call them on (01379) 608585.

WimpWorks v1.24

A new version of Jaffa Software's *WimpWorks* has recently been released. Designed to make the creation of multitasking programs easier for the Acorn 32-bit range, *WimpWorks* v1.24 now has new added features such as external editors and more powerful extension modules (WEMs). The new version is available free to all current users as an upgrade, and prices begin at £25 for a single user copy, while site-licence prices are negotiable. Further details available from Andrew Flegg at Jaffa Software, 14 Worthington Close, Henbury, Macclesfield, Cheshire, SK11 9NS.

Acorn

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Maths Gen. Maths worksheet creator from Creative Curriculum Software.

OPTION 2 - **HOME BUNDLE.**

Resultz. Spreadsheet from Colton Software.
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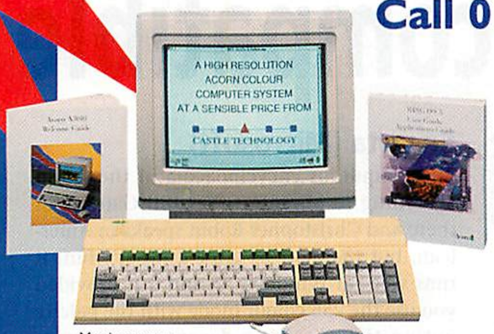
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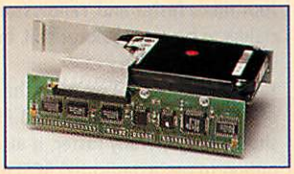
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PC column

Windows compatible software

AS predicted the number of programs appearing on the shelves of your local PC superstore that demand Windows 95 is growing rapidly. Here's a selection I've had a chance to play which run reasonably well.

Microsoft Works

If you want a word processor package, Microsoft's domestic offering is *Works*. It's a combined Word Processor, Spreadsheet, Database and Comms package. It even has a selection of reference works – dictionary, thesaurus, atlas and so on. *Works* is installed onto your hard drive but the reference books are accessed from CD. I've used this software a fair amount as most of the people I work for are predictably PC based.

The package works well but is a bit tedious – the lack of processor power shows up when using technically sophisticated but time consuming things like 'launch wizards' to set up a document for you. My major gripe with the software is that *Works* doesn't save WP files in the same format as *Word* – weird! You need to choose to save in another format – Rich Text Format (.RTF) is a decent compromise. There is one real technical hitch though. The fax software doesn't work – the Windows 95 fax program *Exchange* doesn't either. Aleph 1 are aware of this fault – the view is that it's caused by the software that controls the RS232 port and they are checking it out.

Speed it up

Most of the software I've tried feels sluggish to use although tolerable, but there are a few things you can do to give your system a helping hand:

- *CD Fast* from Eesox is a utility that creates a cache for data from CD-ROM, smoothing the flow from the CD and speeding things up a bit. It won't turn your 2x into a 4x but it does help.
- Given the vast amount of disc accessing that PC programs go in for, anyone considering adding a second drive might think about opting for a SCSI II or fast IDE interface to speed things up a touch. SCSI II is about four times faster and Yellowstone's fast IDE claims to be even quicker still, but SCSI might be the best option.
- On Beta test (as I write) is the latest version of *!PC* from Aleph 1 (version 1.994). This should be generally faster, it also includes the option to use a dedicated SCSI drive which reduces delays even further. It would be useful for transferring files via a removable drive, the downside is you can't access your C drive from RISC OS. (But you could still transfer via floppy.)

Encarta (Microsoft)

The ubiquitous encyclopaedia of the world according to Microsoft. Yes Bill Gates is in there and Christopher Robin speaks in American, but that sort of gripe aside it's fun. It runs well on Windows 95 and 3.1, provided you use the 256 colour mode with the palette option ticked – it's a decent compromise between colour rendition and performance. It's no steam train but it won't give you time to drop off.

The Louvre (Imagine the World)

The Louvre is a great gallery and this is a lovely resource. It's better to see the real thing but Paris is still too far away to visit most evenings. Again it's on the slow side, but that's not a real problem.

RAM hungry PCs

Chatting with Aleph One revealed that many users are still taken aback at how disc byte and RAM hungry the PC world is. The problem is that if you don't have enough, things stop working properly, run slowly or just plain give up.

Look at any PC ad and you will see that 8Mb of RAM is the basic quota these days. More is advised. Windows NT needs 16. So what do you put in your Risc PC?

Basically as much as you can afford. Leaving 8Mb clear for your PC card is a minimum – try 4Mb and your disc drive will never stop as data is shuffled to and fro endlessly. That means you need a few more meg on top to run the PC card software and screen, then a bit more for RISC OS. I thought 16Mb was extravagant when I shelled out for it. Now I've realised it's pretty well essential.

Hopefully by the time you read this, the drop in wholesale RAM prices will have reached the end users – us!

The National Gallery (Microsoft)

London's National Gallery with a tour guide (in English English not American) plus talks on such things as restoration and composition. Again the speed is tolerable but you *must* use the 256 colour mode to get the animations which illustrate composition and so on.

Classic Library (Andromeda)

Several thousand texts on a CD! This one is designed for 3.1 but operates well on Windows 95 too. A very US inspired choice of texts – you won't find Finnegan's Wake, but with 2000 pieces to choose from there's a lot to read and it doesn't take up much space on the shelf.

Explorapedia – The World of Nature (Microsoft)

A fun program for kids aged 8 to 11. You can explore the world and discover some of the animals that share our planet – organised according to habitat. Click on the animals shown in each scene and it will go through a brief animation. These are fun and run at a reasonable pace. The texts give more details for older children and the explanations are voiced by kids – British ones!

Probable problems

Drivers: Most of these programs install themselves and then reset the machine. This can cause problems as drivers can get lost. At one stage I lost the video drivers and had to re-install them and then remind Windows 95 what to look for (if the driver it wants can't be found, it apparently defaults to one that can and you are plunged into 16 colour mode).

The sound regularly gets lost because the line 'device=vsbpd.386' call gets wiped from the SYSTEM.INI file. Fortunately there is a fix. Replace the line with 'device=special.386' and rename the driver from 'vsbpd.386' (in the drivers directory) to 'special.386'. This is easy enough using the DOS command REN (rename). Do this before installing new software and it will save a lot of heartache!

OU online

The Open University is trying hard to develop its connectivity. It's in the process of building a Web site and developing courses that happen online. Not only are they handing out free internet software, they're distributing software to enable tutorial groups to natter via their modems.

Sadly, the OU doesn't recognise the Acorn world and students who want to get online with a British computer will be told by the OU that they only support PCs.

But don't give up. The OU's *First Class* software (which logs you on to the tutorials) works fine on Windows 95 and should work on 3.1 too. The Windows 95 version of Netscape arrived too late to be tested this month – I'll let you know. But anyway, you can do everything it can do with native RISC programs.

Contacting me

You can contact the PC page by writing to me, Mike Buckingham, at *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield, Cheshire, SK10 4NP, or e-mailing to aupcpage@idg.co.uk

Comms

Newsgroup news

Following recent online voting the comp.sys.acorn family of Usenet newsgroups has gained a new discussion area called comp.sys.acorn.extra-cpu. Its scope covers all aspects of processor cards for the Acorn range of computers, include setting up problems, compatibility issues, hardware matters, multiprocessing operating systems and anything relating to these cards, and it's available now from your news server

Next Nexus

Nexus BBS is described by Sysop David Llewelyn as the best BBS in the Wirral, Cheshire. Co-sysops Patrick Willams and David Stockton help David run Nexus BBS using NewsFlash BBS software on an Acorn A5000. The online times are limited at the moment to 8pm-10pm every day.

Nexus BBS
0151-336 5458

COMMS page URL of the month

Ting's World has nice graphics and introduces us to Ting Zwei Kuei, once a regular Arcade BBS caller, now resident at King Alfred's College, Winchester, Hampshire. Ting is a keen programmer in RISC OS, BSD Unix, MS DOS and other platforms as well as being an accomplished violinist who enjoys playing in orchestras. Among many interesting links on his site are those to his 3D Menus patch for RISC OS, and a comprehensive list of essential programming resources for ARM, BASIC, C/C++, and other languages.

Ting's World
http://sun1.wkac.ac.uk/~tzkuei/

Contact

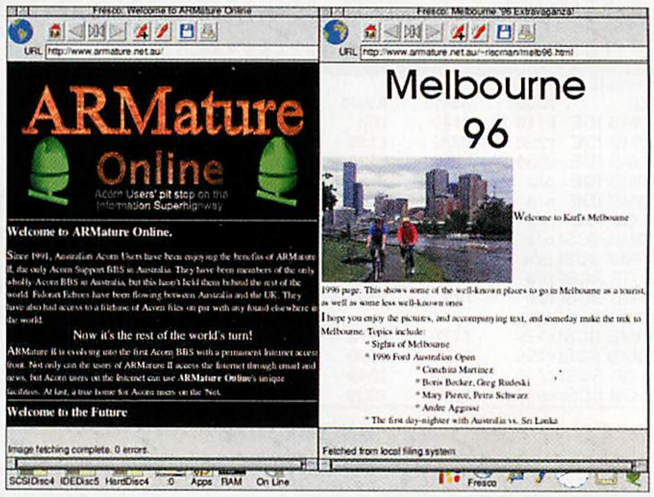
Send me any Acorn-interest URLs you find, and I'll publish a monthly selection. You can contact me by writing to David Dade, Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP, or by e-mail to: DaviD@arcade.demon.co.uk, or mail #2 on Arcade BBS 0181-654 2212.

Coming up from Down Under

ARMature II BBS in Oatley, New South Wales has been serving Australian Acorn users since 1991, keeping them in contact with the rest of the Acorn world by FidoNet Echoes linked to European Bulletin Boards. During that time, ARMature's Sysop Karl Davis has been building up an Acorn filebase comparable to those found on large European BBS and FTP sites.

Karl is now able to offer users world-wide Internet access to ARMature II and many of its BBS features like online chat together with all the new facilities that Internet access can offer, such as free non-commercial World Wide Web space, sending and receiving email and Usenet news, and ftp access to one of the largest Acorn filebases in the world.

ARMature II continues to operate as a ARCbbs dial-up BBS with V34+ capability on +61-2-580-9938 for 24 hours a day, but since users can also log on at any time via the Internet for the cost of a local call, only local NSW callers may continue to do this. I suspect though that some BBS functionality will remain exclusive to the dial-up ports, so all types of connection and caller will be entertained.



Welcome to the future of ARMature online

The hardware to make this work includes an Acorn A5000 to run the ARCbbs software, and a Pentium-powered PC running Linux for the Internet facilities. Servers for http (HyperText Transport Protocol), IRC (Internet Relay Chat) and FTP (File Transfer Protocol) run on the PC, while the A5000 handles email and news interfacing to the BBS and produces the HTML versions of the ARCbbs File List.

The Internet connection is an ISDN 64kbit line to AUSNET Services but use of ARMature Online's many features is completely free. Email facilities for Internet user accounts include BBS-linked mailboxes and flexible re-direction by POP mail to other email boxes anywhere on the Net. Mailing list origination and subscriptions, or hobby and special interest areas can be created and maintained by ARMature members.

Even with 24 hour worldwide Internet access, ARMature Online retains the unique BBS flavour that gives Acorn BBS users such special service, and it is one of the first of a new breed of hybrid Internet resources that can give us the choice in the way we communicate with our peers.

More information can be found with your Web browser at this URL:

ARMature Online
http://www.armature.net.au/

World Wide Web Resources

Here are some of the URLs you've sent me:

http://www.altavista.digital.com/
Useful Search Engine for Usenet/WWW

http://rainbow.medberry.com/enigma/index.html
Paul Vigay's Independent Research Centre for Unexplained Phenomena

http://www.discovery.co.uk/discovery/
Discover Ltd Home page — Morocco tours

http://portico.bl.uk/
The British Library Information Server

http://portico.bl.uk/otherwww.html
Portico Guide to Resources on the WWW

http://www.synet.net/hwg/
The HTML Writers Guild Website — HTML Information resource

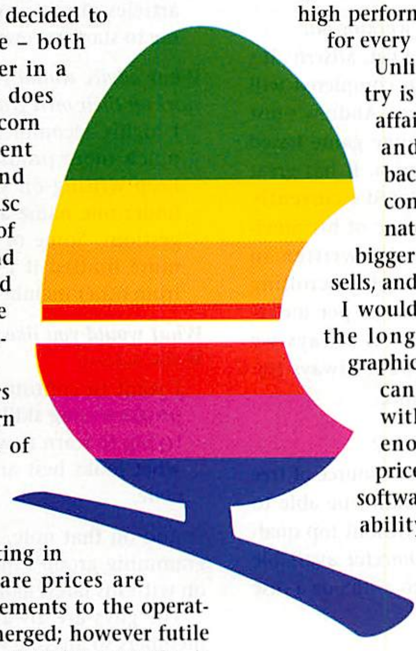
http://www.ncsa.uiuc.edu/demoweb/html-primer.html
The Beginner's Guide to HTML document

http://owl.sel.cam.ac.uk/
The Oli Bage Home page

http://www.gpl.net/customers/kingdom-come/
Bread on the Web — Christian 'Good News' paper

Fruit and Nut computers Apple and Acorn ally

MUCH rumour and indeed paranoia is circulating at present, with regard to the future of Acorn computing, especially in light of the recent alliance with Apple. The way in which graphics and DTP users will be affected in the near and long term is something I feel should be clarified. Simply because Acorn have decided to sell to schools with Apple – both companies using each other in a mutually beneficial way – does not mean in any way that Acorn and especially ART are intent on disbanding RISC OS and Risc PC development. The Risc PC is, after all, the flagship of Acorn's hardware line-up and I am sure that Acorn would not be so quick to ditch the system they so expertly created as speculation suggests.



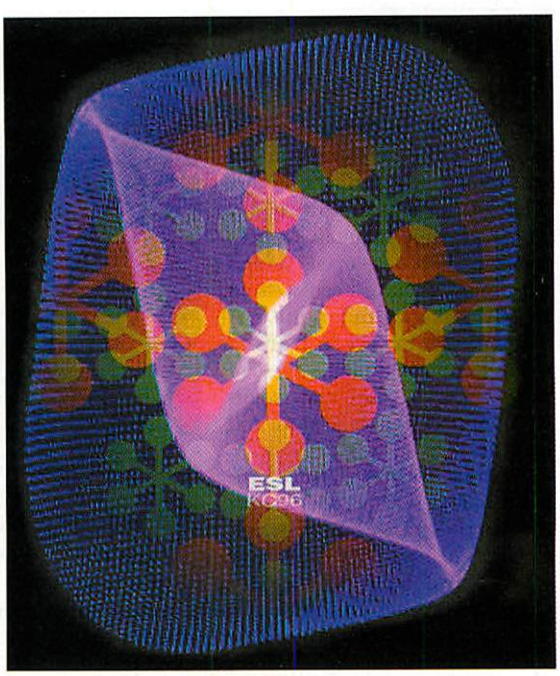
As users or programmers of Acorn machines and Acorn software, we are all aware of the downsides to the platform which, in some areas of graphics, have become valid reasons for not investing in Acorn equipment: hardware prices are high; much needed improvements to the operating system have still not emerged; however futile the reason for needing it a full C++ compiler is not available; features in DTP and Vector graphics packages have not kept up with the industry and the promises of professional 3D modelling have been re-moulded into more educationally orientated plans.

But Acorn bitmap editors now qualify for the premier division despite their low cost, DTP remains unbeatable in many respects and video editing continues to be a strong-point offering high performance and good value solutions for every price range.

Unlike Acorn, the computer industry is hardly a pensive, retrospective affair and rarely do the big software and hardware manufactures sit back and reflect on the market to consider their next step. Unfortunately the market is such that the bigger and faster it is, the quicker it sells, and those who sell stay alive.

I would say that the critical factor in the long-term success of Acorn as a graphics platform is how quickly ART can build and market a machine with a cutting edge OS and with enough horsepower at the right price to turn some heads in big PC software houses. As ever, it is not the ability of the graphics workstation but the power of advertising and the number of CD-ROM games available on the platform that sells. Acorn must work fast now if it is to retain the advantages it has over PCs and, by trying to build a strong foundation market with Apple, this task will only be made easier.

Pic of the month



YET again, young Mr Clover canes the competition to win another pic of the month prize. The two pieces he sent were both created using *Photodesk*, although ESL-3 (whatever that is meant to mean) was first generated as a Basic program using sine/cosine algorithms which Kane wrote himself. Much image processing later and with the final addition of some 'dingbats' the piece was complete. The other image (not pictured) was called B-Chaos and relied heavily on Kane's mastery of the gamma correction tool and the airbrush in *Photodesk*.

Remember that all winners get a £20 prize and a free slide recording from the Digital Darkroom.

My apologies for not being able to include any of your images which you so kindly sent in on the last CD-ROM. I have been promised some disc space on the next CD-ROM though. Thanks again.

School calendar

Ashton-on-Mersey school has produced a highly impressive 1997 calendar which I was sent a couple of months ago. Each of the 12 images in the full A3 wall calendar were creations of pupils at the school and the calendar itself was put together by year 10 students. Some of the images were straight scans and others were compositions of scanned imagery which were generated using *Revelation 2*.

All the pictures have a complimentary border which look as if were created by grabbing an area of the pic for that month, and then tiling the cutout using *Revelation*. Thanks to Mr Mercer for sending in his pupils' work and congratulations to Mathew, Martin, John, Rebecca H, Victoria, Gavin, Paul J, Paul B, Darren, Rebecca P, and Paul C for having their artwork chosen for the calendar.

TJ goes tank crazy

TJ Reproductions has just printed the first issue of MV (Military Vehicles) Magazine, the latest bi-monthly published entirely using Acorn machines. This 30 page colour/mono publication is one of the many that has been able to set itself up due to the cost advantages that desktop publishing on the Acorn platform affords. TJ Reproductions have been invaluable in the success of such projects due to their use of highly efficient Acorn equipment. I would strongly recommend this publication, firstly to anyone who is interested in military vehicles as it is quite unique and also to those thinking of publishing themselves; the Acorn platform being arguably the cheapest and quickest platform to do so.

TJ Repro
Tel: 0171-372 4430
MV Magazine
Tel: (01964) 631244

Contacting me

You can contact the graphics and DTP page by writing to me, Jack Kreindler at *Acorn User*, Media House, Adlington Park, Macclesfield SK10 4NP, or by email to augrafix@idg.co.uk.

Public Domain

Event Shell

Paul Hobbs has just announced the Internet opening of his new web site for the popular programming suite, Event Shell. The program has been under development for over five years and comes highly recommended from the AU PD column not to mention a whole array of PD programmers who have used it to develop their own applications. The site can be accessed at: http://ourworld.compuserve.com/homepages/Paul_Hobbs.

IBrowse

The first of a new series of PD scheme programs on the cover disc is Dave Thomas's IBrowse JPEG viewer. Watch out for more new PD programs on the cover disc soon.

Megaboard

Megaboard 2 is a backdrop application for RISC OS 3 onwards. The application completely replaces the existing backdrop program on your desktop and adds in further functionality while tidying up some of the loose ends left by Acorn. Support for Megaboard is provided on the net by email access to author Sham Gardner at: un9l@rz.uni-karlsruhe.de. The program itself is available for download from HENSA or Sham's web page at : http://www.rz.uni-karlsruhe.de/~un9l

PD competition

David Holden of the APDL is holding another PD competition for 1996. As usual the top prize is £100 and full details of the entry requirements can be obtained by sending a blank disc and SAE to: PD Competition, APDL, 39 Knighton Park Road, Sydenham, London, SE26 5RN.

Contacting me

You can contact the PD page by writing to me, Paul Wheatley, at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP. Or preferably, by e-mail to aupdpage@idg.co.uk

Arm'd & Dangerous

Recent PD columns have featured some of the new groups on the scene, and this month we focus on a new games oriented group going by the name of Arm'd & Dangerous.

Despite using yet another ARM pun in their name, the group has a lot of potential for the PD scene and already has several games under its belt. I spoke to head Dangerous man, Robert Titman:

What software are you currently working on?

I'm working on my best game yet, *Miserly*. It's a platform game which when completed will have 12 levels with four themes. Andrew's just finishing off *Goop*. It's a strange game based loosely on *Putty* from the Amiga. It has great graphics and animations. David's currently coding *Blobby2* the sequel to one of his previous games. It is almost totally written in Assembler, is constantly smoothly scrolling upwards and there are 30 frames per movement of the main character! As always we have lots of other ideas and we're always trying to improve our programming.

How do you view the Acorn PD scene?

I think the PD scene is a brilliant source of free or nearly free software. I wouldn't be able to code or distribute my games without top quality software like *Zap* and *Connector* available for the price of a phone call to a BBS or a disc from a PD library.

How important is PD software to the Acorn market as a whole?

Very. I don't think these computers would be quite as popular if you had to pay commercial prices for every utility on your hard disc!

If you could make one change as head of Acorn, what would it be?

I'd release RISC OS 4 with some of the best PD utilities in ROM. Also, the file core needs updating, now that even the PC can have long file names with spaces.

What would you rate as important influences in your work?

Tom Cooper and your PD page actually! Your articles about programming groups inspired me to start my own.

What advice would you offer to people wanting to start up their own group to write software?

I highly recommend it. Working as a team is much more productive. Even if you want to keep writing on your own it's good to work under one name and have other people's suggestions. Some of my games would be much more limited if I hadn't had the input I get from other members of the group.

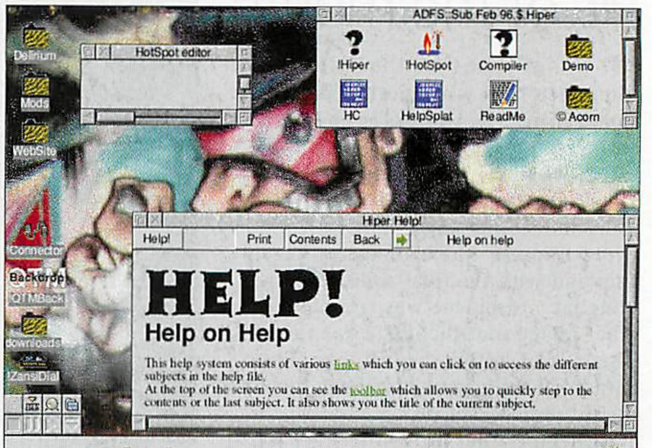
What would you like to achieve as an Acorn coder in the future?

I want to continue constantly improving my programming skills and my games. I'm always trying to learn new skills. I'll keep trying to do what looks best and not what's the easiest to code.

And on that note, which should be every programming group's motto, I'll leave Robert to get on with his latest game, *Miserly*.

The guys are always on the look out for new members so anyone with coding or possibly even graphical or musical skills can get in touch at by email at: robert.t@argonet.co.uk. The group's games can all be found at Mossoft BBS on (01733) 701501 or from Five Star Marketing on discs GA69, GA70 and GA71.

Hiper



Despite RISC OS being regarded as one of the most easy-to-use and attractive interfaces on any platform, no standard way of displaying online manuals or help files has been developed. Several PD programs have been written to fill this gap but none has really caught my eye in terms of that all-important factor – ease of use. As it stands, the vast majority of software uses a plain old text file.

Andrew Hunter's *Hiper* program is a new pretender to the throne that rates quite highly. Creation of help files is relatively easy, and the viewer and hypertext system is spot on. Drawfiles, sprites and outline fonts can all be used and, quite crucially, *Hiper* provides the option of automatically squashing the completed hypertext help document. The only problem is the lack of speed of this BASIC application. This prevented Andrew from including a search facility. *Hiper* is on the February subs disc from APDL.

Where UK?

THE latest piece of educational software to catch my eye is a wonderfully simple but incredibly useful geography program from M. Smith. *Where_UK* is designed with Key stage 3 in mind, and provides an automatic question and answering system. On start up, a small tool bar lets you set up the number of questions, what is to be tested and whether the testing should be timed.

When the test is started, multiple-choice questions are offered by highlighting a part of the UK map in the main window and asking its identity.

The program is shareware, with the unregistered version containing questions only on the UK.

Registration costs just £3.99 for each region covered (UK, Europe or Africa).

Registered copies can be obtained from: M. Smith, 19 Tulip Road, Awsworth, Nottinghamshire, NG16 2RS. The unregistered version is on the February subs disk from APDL.



Software requests

SINCE my appeal I've been inundated with requests for new PD applications. I'd still welcome more, so keep them coming. If you're interested in coding one of the ideas described here, or have found an existing application that fits the bill, please get in touch. We're keen to feature applications of this kind on the cover disc, under the AU PD scheme. This means that the creation of one of these ideas could earn you some hard cash, and the rest of us, some free software. Get working!

One request I received this month was an idea for an on the fly sound module. Robin Abecasis would like a utility that provides a command allowing the playback of a single sample from disc. The code needs to allocate the memory and voice, play the sound (preferably in the background), then release the memory used.

Quite a tall order for the first request, and that's not even taking into account possible problems of clashes with other resident sound software, but a solution would be an obvious PD scheme candidate.

John Billings wants a program that opens a random backdrop picture on startup. I've been after a similar program for quite some time, and currently use a rather bodged application coded by myself. What's really needed is an application that searches through a picture directory on startup and selects a backdrop for you. Unfortunately you usually want some of the pictures to be scaled and some tiled and so on. This demands a neat little setup window that maybe allows you to drag new pictures on and setup their details. Anyone interested in this idea, please get in touch.

Conversion from foreign graphics and sound formats to Acorn ones has always been a popular subject for PD, but things seem to have slowed up a little since the development of the RiscPC. John's second request is for a program to convert Macintosh format sound files to an Acorn understandable format.

Stephan Paternotte from the Netherlands has a similar problem with graphics, and wants to be able to covert Drawfiles to and from Windows Meta File Format on the PC.

Finally, the man upstairs, Mr Turnbull has a request for a mini application which runs boot files (recursively for directories) dragged to its icon. Sounds familiar, but I can't recall an app that does the job. Please help us out!

Wakefield

Despite disappointment over the lack of a show at Harrogate this year, the event at Wakefield gives us northerners a chance to show that Acorn does exist north of Watford. The Public Domain will be well represented at the show and myself and the rest of the AU team will be on hand to answer your questions.

VZap

Paul Vigay, author of the popular virus killer, VZap has just updated the program to version 1.17. The new version features extended support for ArcFS archive scanning. The program can be obtained from Paul's home page on the web at: http://rainbow.medberry.com/enigma/shareware.html, from Equinox BBS at (01705) 871331 or from various CD libraries.

Recommended PD Libraries

The Datafile
71 Anson Road
Locking
Weston-Super-Mare
BS24 7DQ

Naked PD
'Fayence'
Fulford Road
Stoke-on-Trent
Staffs ST11 9QT

Arch Angel PD
PO Box 41
Exeter
EX4 3EN

APDL
39 Knighton Park Road
Sydenham
London
SE26 5RN

Beebware PD
83 Forrest Road
Huncote
Leicester
LE9 3BH

ARM Club PD Library
Freepost ND6573
London
N12 0BR

Showroom open Mon-Sat 10-18.00 hrs (All prices exclude VAT) Carriage included except where indicated

CD-ROM



All our CD-ROM's are Multi-Session, PhotoCD, CD-DA, White Book compatible & come complete with data/sound cables, screws & fitting instructions. SCSI drives require an interface with CDFS 2.20 or greater. Driver incl.

Internal Drives

4x Speed ATAPI (IDE) (Tray) £110
This drive can only be used on a RiscPC or A7000 with RiscOS3.6 or later (Add £34+VAT for RiscOS 3.5). No further hardware is required.
2x Speed SCSI (Tray) £110
4.4x Speed SCSI (Tray) DR-U124X £210
PCW Verdict - 'It's extremely quick, and a bargain.'
6.8x Speed SCSI (Tray) 135ms £270

External Drives

2x Speed SCSI (Tray) 275ms £170
4.4x Speed SCSI (Tray) 150ms £260
6.8x Speed SCSI (Tray) 150ms £320

SCSI cards

Morley cached SCSI card £160
Cumana SCSI II card £165
PowerTec SCSI II card £165
Above are suitable for A300, A400, A3000 (Ext+£30), A540, A5000 and RiscPC.

Hard Discs

IDE Bare Drives		SCSI Bare Drives	
635Mb 12ms	£130	730Mb 12ms	£170
850Mb 12ms	£Call	1Gb 12ms	£210
1Gb	£Call	2Gb 12ms	£500

Above are 3½" bare drives only. Please add the relavent accessories from below. Drives are Connor or Quantum. ForA3000/A3010 hard discs see Hard Card section below.

Syquest Removable SCSI Drives

Internal Drives		External Drives	
105Mb Syquest	£150	EZ135Mb Syquest	£199
270Mb Syquest	£259	(Above includes cartr.)	
		105Mb Syquest	£210
		270Mb Syquest	£329

Syquest Cartridges

EZ135Mb Cartridge	£20	105Mb Cartridge	£43
		270Mb Cartridge	£49

Hard Disc Interfaces/Accessories

50-50C SCSI Cable	£10	25-50 SCSI Cable	£10
SCSI II-50C Cable	£25	SCSI Terminator	£10
5¼-3½ open adapt	£10	5¼-3½ HD adaptor	£12
IDE Accessories		**SCSI Interfaces**	
IDE interface	£79	Morley Cached	£160
2nd Hard Drive Kit	£15	Cumana SCSI II	£165
External case/PSU	£79	PowerTec SCSI II	£165

TopicArt

Single disc clipart containing approx. 50 high quality draw format clip art images, each on a single subject. Comes with mono reference sheet. 20 subjects are available now. Please specify when ordering. Site licences are £16+VAT per disc, please ring for further details.

New CD-ROM! £32+VAT
Contains over 2000 ClipArt files, each in Draw, ArtWorks & EPS formats + other demos.

Floppy discs £8 + VAT each
Single Floppy disc subjects available (one disc per subject)

1 General	11 Tools
2 Transport	12 AnimalsGB
3 Costumes	13 Chem Signs
4 Entertainment	14 Fire/Emerg Sn
5 Bugs 2 Slugs	15 Hazard Signs
6 Road Signs	16 Safety Signs
7 Sports Equip	17 Xmas1
8 Sports Figures	18 Xmas2
9 Dinosaurs	19 Xmas3
10 Symbols	20 Xmas4



Now available on CD-ROM

TopicArt catalogue available. £1.50 Inc VAT/p+p (cheques only)

RiscPC Computers

All Acorn computers include 1yr on-site maintenance. 3yr On-site is available. **20/20 finance available, ring for details.** For PC Cards see PC Card section below.

14" Monitor Systems (AKF60)

RPC600 4MHD425 £1128
RPC600 4MHD425+4xCD £1179
RPC700 5MHD425 £1319
RPC700 5MHD425+4xCD £1370
RPC700 10MHD850 £1658
RPC700 10MHD850+4xCD £1709

17" Monitor Systems (AKF90)

RPC600 4MHD425 £1446
RPC600 4MHD425+4xCD £1497
RPC700 5MHD425 £1639
RPC700 5MHD425+4xCD £1690
RPC700 10MHD850 £1957
RPC700 10MHD850+4xCD £2008
Add £20 for Iiyama MF-8617E
Add £85 for Iiyama MT-9017E

20/20 Finance

on Acorn Systems (0%APR)
20% deposit (min) and 20 interest free monthly payments. Available subject to status. Ring for details.

A7000 Systems with 14" Monitor

A7000 2MNET £799
A7000 2MHD425 £799
A7000 2MHD425+4xCD £899
A7000 4MHD425 £867
A7000 4MHD425+4xCD £969

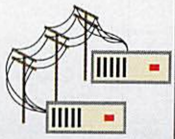
RiscPC Multimedia CD-ROM Pack

Includes 25W stereo mains speakers, Hutchinsons Encyclopedia & RiscDisc (Vol.1) together with one of the following CD-ROM drives.
4x ATAPI CD Pack £165
The above can only be used with RiscOS 3.6 machines.
4.4x SCSI CD Pack £375
The SCSI Pack includes a Morley cached SCSI Card. Add £20 extra for SCSI 2 Card.

QuickLynk

New Product

Software only £28
With 5m Local Cable £34
With 10m Local Cable £39



QuickLynk allows you to automatically access another Acorn RiscOS computer remotely using the serial port via modems or locally using a cable to connect the two computers. Each computer can be configured to allow access to any attached filing system device eg ADFS, IDE, SCSI, CDFS, etc. Once connected, files can be transferred to/from the remote computer. Other features include password access, auto dialler with phone book and chat mode to send messages to remote computer/user. Transfer rates up to 1900 bytes/s can be achieved with older computers, eg. A410, A3000, peaking at 11400 bytes/s on the RiscPC range. The transfer rate is limited by the speed of the serial port. Requires RiscOS 3.10 or greater.

zip Drives

- Zip Drives work just like your hard drive, letting you instantly access files and applications, exept they are removable.
- Zip Drives use 100Mb Capacity Zip Discs.
- Any Number of discs can be used giving unlimited capacity.
- Both Zip Discs and Zip Drives are Portable.
- Zip drives are fast, data transfer speeds around 1Mb/s - ideal to backup your hard drive.
- Each drive comes with a 1 year warranty and a free starter disc.
- The Zip drive requires a SCSI card.

External Zip Drive (SCSI) £170
Single 100Mb Cartridge £15
Pack of Ten Cartridges £115

Mail Order - 0161-474 0778 (All prices exclude VAT) Carriage included except where indicated

RiscPC PC Cards

When purchased with a RiscPC System
PC5x86-100 £399
PC486DX4-100 £199
PC486DX2-66 £149
PC486SX33 £99
When purchased seperately
PC5x86-100 £499
PC486DX4-100 £299
PC486DX2-66 £249
PC486SX33 £199
Trade-In discounts of £100 for DX2/DX4 cards and £200 for PC5x86 cards are available when trading in a ACA42 486SLC33 PC cards.
Add £6+VAT carriage for PC cards.

RiscPC Upgrades

Microsoft Windows '95 (CD-ROM) £70
Microsoft Encarta '96 for Windows £40
Microsoft Cinemania '96 (Win95 only) £35
ESP16 bit Sound Card (Carr.£2+VAT) £60
YES 16 bit Mozart Card (carr. £2+VAT) £60
2nd Slice Case Upgrade (Carr. £6+VAT) £99

Memory Upgrades

RiscPC Memory, please ring to confirm prices

4Mb SIMM	£60	8Mb SIMM	£120
16Mb SIMM	£220	32Mb SIMM	£Call
1Mb VRAM	£100	2Mb VRAM	£160
1-2Mb VRAM Upgrade (exchange)			£100
A3000 Memory			
1-2Mb RAM	£55	2-4Mb RAM	£90
1-4Mb RAM	£129		
A3010 Memory			
1-2Mb RAM	£40	2-4Mb RAM	£105
1-4Mb RAM	£145		
A3020/A4000 Memory			
2-4Mb RAM	£89		
A5000 Memory			
2-4Mb RAM	£89	4-8Mb RAM	£229
A300/400 Series		4-8Mb RAM	£229

Monitors

Acorn AKF50 14" 0.28dp MultiScan £275
Acorn AKF60 14" 0.28dp MultiScan £325
Acorn AKF90 17" 0.28dp MultiScan £599
Iiyama MF-8617E 17" 0.26dp M/Scan £540
Iiyama MT-9017E 17" 0.25stripe M/Scan £600
Older computers will require an adaptor £12

Printers (Include Cable)

Canon BJC-210 (360dpi Mono) **New!** £189
(BJC-210 is colour upgradeable and includes a free colour cartridge whilst stocks last!)
Canon BJ-230 (360dpi Mono) £265
Canon BJC-4100 (720x360dpi Colour) £250
Canon BJC-610 (720dpi Colour) **New!** £360
HP LaserJet 5L 4ppm (600dpi) £410
HP LaserJet 5P 6ppm (600dpi) £630
Add £40 to above printers for TurboDriver

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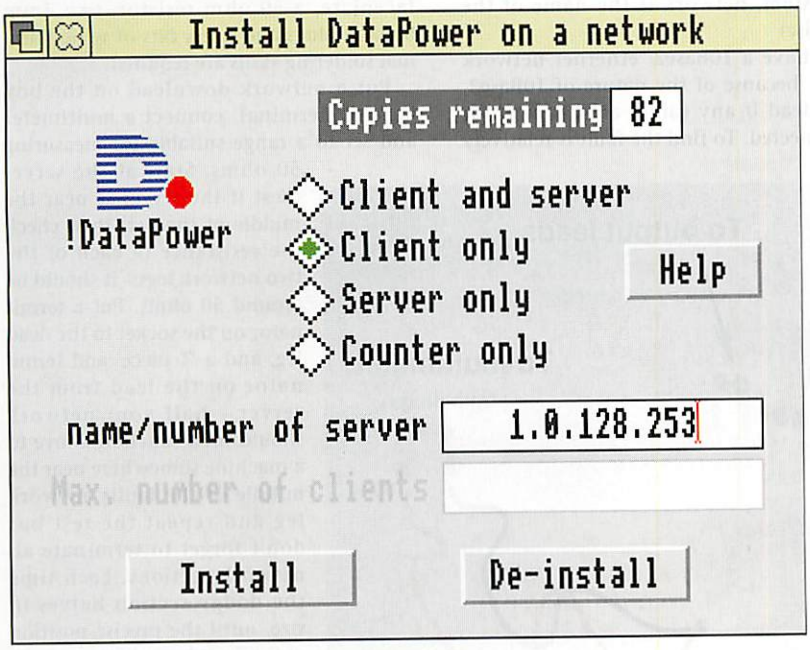
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Networks

DataPower upgrade

AS reported in the last network column, databases can cause serious problems when run over a network. They generate a great deal of traffic which causes the network to run slower and slower as the number of users increases, until it all but stops. Iota's *DataPower* is probably the best one to use across a network, but even this could have difficulty when more than 20 or so users are all searching and sorting different files.



Iota has just released a upgrade for *DataPower* which makes networking very much easier and rather more reliable with class-sized groups of users. The upgrade comes on two discs, the first to upgrade your master disc and any installed copies, and the second containing the new server-only version called *DP-Server*. *DataPower* uses a system of credits to ensure you only use the number of copies you're supposed to. Remember to first de-install any currently installed versions of *DataPower* or you'll lose your credits if you simply delete the program.

Of the several ways of installing, the simplest appears to be to place a server-only copy on your fileserver which holds the required number of credits, and then a client-only version on the application server or on local hard discs. The server version displays the number of clients using *DataPower*. Of course, there are other setups such as dedicated *DataPower* servers, but I think that's only really viable if a very large proportion of your life is spent using *DataPower*. If using multiple fileservers, you can place a copy on each which will spread the load. For example, rather than placing a 100 user copy on one fileserver, four 25 user copies on fileservers should even things up a little.

I'm not someone who goes looking for faults with software, but I have had a considerable amount of grief with networked databases and so I spent a good deal of time trying to crash the system. The easiest way is to log on to about 20 machines, load the same datafile and run a search on all of them together. That would always take ages – especially if you had another group searching the networked CD-ROMs. But I'm pleased (and relieved) to say that it worked very well.

Anyone who has not yet upgraded, should do so now.

Iota
Tel: (01223) 566789

ArcMac file transfer

THANKS to Daniel Pead from The Shell Centre for Maths Education who replied to an item in the last Network Column. He says that there is a shareware Mac program called *FTPd* which will talk to ANTs *FTP* client. It still has some major restrictions – it won't let you change directory (the main problem lies in spaces and such which tend to appear in Mac directory names) but since *FTPd* lets you configure a default login directory for each user, it's still some use for transferring files. It also shares some details (users, passwords, shared directory permissions etc.) with AppleTalk file sharing.

It's available from most Mac FTP sites, for example: ftp://src.doc.ic.ac.uk/packages/mac-umich/util/comm/ftpd3.0.sit.hqx

Contacting me

You can contact the Network page by writing to me, Geoff Preston at Acorn User, IDG Media Ltd, Media House, Adlington Park, Macclesfield, SK10 4NP or by e-mail to : aueduc@idg.co.uk

Tip of the month

THIS tip comes from Ken Depledge who runs a small network of a dozen or so machines in a Design and Technology department.

'I have on occasions gone into the computer room to find the printer merrily spewing out reams of paper filled with gobbledegook – everyone in the room at the time protesting their innocence!'

The culprit has been identified – in this instance *ArtWorks* – though a number of applications would yield the same output. The problem arises when an unsuspecting user attempts to print an *ArtWorks* file by dragging it to the printer icon on the icon bar. Like a number of applications *ArtWorks* does not support this and the printer manager offers the choice of plain or fancy text.

If one of these options is chosen instead of cancel the garbage is sent to the printer, wasting paper. It also wastes a great deal of time as it can be very troublesome to flush this junk out of the !Printers/!Spooler/printer system – often resulting in a machine hang somewhere!

Fortunately the solution is fairly simple and other network managers might be interested. All that is necessary is to include a line similar to this in each station's boot sequence:

```
Set Alias$@PrintType_D94 Error 0 "You cannot print an
ArtWorks file in this way"
```

Improving user friendliness

Bill Lamin shares some tips for making a network a little easier to use and manage

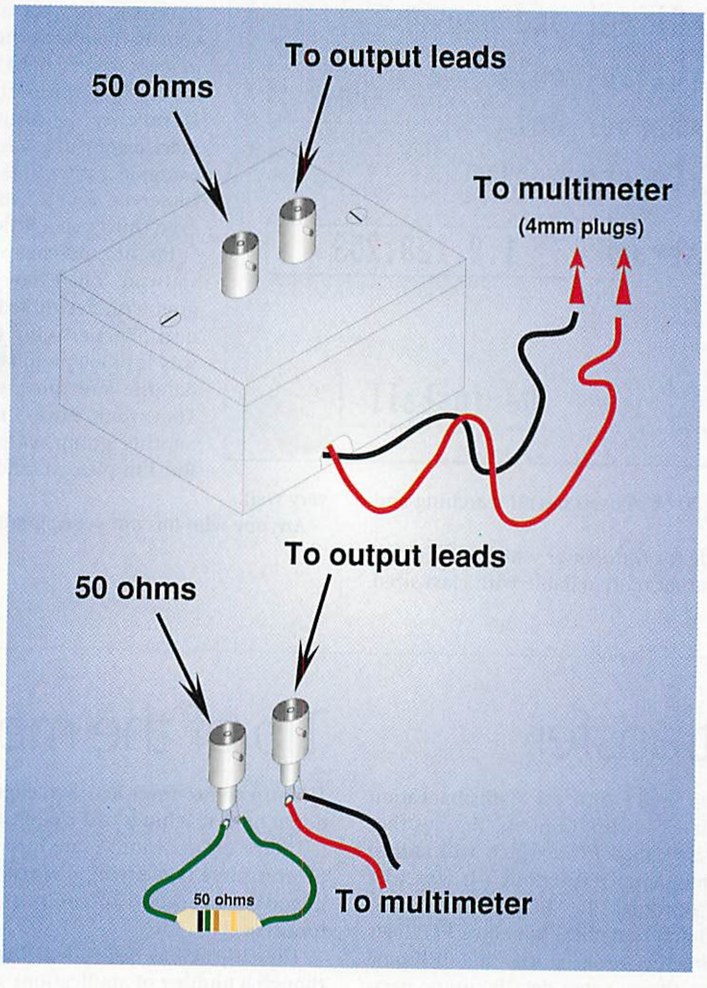
MANAGING a computer network is a demanding job in the best of circumstances. Managing a school network when holding down the 'day job' as a teacher is not a task to be taken lightly – especially with limited technician support. Most commercial networks have a few dozen 'consenting adults' using them. Pupils in today's schools don't exactly fit that category - and they come in hundreds rather than dozens! It also is slightly relevant that not every pupil is totally dedicated to improving the availability of computer resources.

Unlike serious adult users, the average school pupil doesn't get a terrific amount of exposure to computers. We really have to try to remove as many of the little irritations as possible – to improve access and to increase confidence. A recurring error message on our system was the 'no run action for this file' – when pupils tried to reload a file (in the best Blue Peter tradition) prepared earlier. Once you know, it's easy to open the parent directory of the application and then away you go. We avoid the problem with all our common applications – *Pinpoint*, *Advance*, *Poster* and the like by including in the Boot file the command :

```
Filer_Boot AppFS::network.Poster.!Poster
```

for common applications. (AppFS is the name of the filing system, network is the name of the hard disc)

We have a 10Base2, ethernet network which, because of the nature of 10Base2, stops dead if any cables are damaged or disconnected. To find the fault is relatively easy, but can be time consuming. To make fault finding a little easier, I rigged up a test box illustrated below. It is made from a plastic surface mount box, a twin BNC faceplate, a 50 ohm resistor, two 4mm banana plugs and a few bits of wire. Minimal soldering skills are required.



Put a network downlead on the box 'output' terminal, connect a multimeter and set to a range suitable for measuring 50 ohms. Start at the server (best if the server is near the middle of the net) then check the resistance in each of the two network legs – it should be around 50 ohms. Put a terminator on the socket to the dead leg, and a 'T piece' and terminator on the lead from the server – half your network should then function. Move to a machine somewhere near the middle of the faulty network leg and repeat the test but don't forget to terminate all network sections. Each time the dodgy section halves in size, until the precise position of the fault is obvious.

It may be necessary simply to refit a connection or to replace a downlead. You can then use the test box for testing downleads. Connect the lead between the two terminals and check the meter reading – it should be 50 ohms-ish. Now waggle the leads furiously near each end – if all is well the resistance should remain roughly constant, if there is any lack of integrity it will show here. With care you can identify which end is at fault and refit the connector. Include a T piece if you need to test that.

No time to check computers?

WE advertised among our school pupils for Trainee Computer Technicians, demanding written applications and interviewing the applicants. Each successful applicant (sadly only two out of the ten were girls) was trained in the essentials and each allocated five computers. Every day, they check the configuration and that their machines are on-line. Once a week, they clean the mouse pad and the screen. Each month they remove each mouse in turn, replace with a spare and clean the mouse ball and rollers. (Note, the retaining plates are all superglued in, so some dismantling is required). Also every month, they take the test box and test each computer drop lead to hopefully locate potential problems before they happen.

What a success! Any problems not fixable by the technicians were reported immediately. The benefits for the pupils (all in Year Nine) were even greater than for the computer system. We went through a realistic recruitment and training process. The interviews were carried out by senior teachers (it may have been better to get an outside employee in) and the trainees were only allowed loose on a computer when they had passed a competence test.

I recommend the idea to you.



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Cover disc

Optical: The Demo

Neurotron Software

THERE are many things in modern life which people would like to organise better, do more quickly, and access more easily. Think about all of the written media that passes through your life every day, be it through magazines, books, work documents, telephone directories, even the information on CD covers. If all of that information could be stored together in one place, so that required parts could be easily and quickly retrieved at will, it would make for an excellent and interesting resource.

This is where Optical Character Recognition or OCR comes in. This process involves written media being scanned into a computer, and read into a format which the computer and the user can manipulate or reference. For example, there are many recipes for food in various magazines. It is possible — and I personally know a real-life example of this — to OCR these recipes and put them into a database. This not only makes them easier to access, but removes the need to store piles of magazines everywhere.

Optical Professional is a leading OCR package for the RISC OS platform, and this month's cover disc includes an almost fully functional version. The following amendments have been made to the complete package:

- Only one font (Homerton/ Helvetica) can be read properly, without extra training. Several are recognised standardly in the full version.
- The lexicon or dictionary for checking words intelligently has been removed.
- It is not possible to save the OCRed output.
- It is not possible to save trained font definitions to disc.
- Menu Linked Embedding (MLE) is disabled.
- Use of a speech synthesiser to read out the output is not allowed.

There are five files included within the demonstration:

!Manual is an interactive manual for the software, which explains all features, and how to use them. It also contains details and special offers for ordering the complete package.

!OptclDemo is the actual demo.

!ReadMe1st is a text file giving a brief introduction to the demo.

KeyStrip is a drawfile showing the keyboard short-cuts that can be used.

Scanned is a page of text which has been scanned.

To get started, try the following:

Double-click on !OptclDemo and drag the sample sprite Scanned on to it when it has appeared on the icon bar. When a window appears asking for the resolution that the image was scanned at, click on the Enter button. The scanned image should then appear in a window.

If you click on the Read button at the top left of this window, the OCR process will begin, and an output window will open which quickly fills up with the text in the image.

While the output is produced, it can be edited in a similar way to using !Edit. A yellow bubble will follow the caret displaying the appropriate position in the scanned image.

However Optical Professional does not only read text, but recognises different fonts and their sizes. Try selecting Display->Show full quality from the menu available over the output window. The text will then be displayed in its full glory with font changes and point size information which (in the full version) can be saved into a word processor.

Optical Professional's power does not end here. Its comprehensive training routines allow virtually any typeface and any character (including foreign ones like Russian) to be recognised — quickly and easily too.

The underlying idea of using a package such as Optical Professional is to save considerable time and work, and there are many features to help do so. For example try running !Edit and opening a text window while the demo is loaded. Bringing up the text window's menu, you should find that there is an added option at the bottom — OCR.... Selecting this allows an image to be scanned, OCRed and directly inserted into a document being edited (in this case in !Edit, but it can be virtually any other windows based application allowing manipulation of text.)

For more information on the features (like table recognition) available to Optical Professional users, the interactive application !Manual can be used.

Special Offer for Optical

Optical Professional is normally available at just £149 all inclusive. However, up until the end of May 1996, it can be bought for a special price of only £119 all inclusive! All you have to do is quote the order code: AUOP422.

Neurotron Software, Birch Tree House, Petham, Canterbury, Kent CT4 5QU

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Non-fragmenting Heaps

Andrew Booker

IN computer programming terms, a *heap* is simply an area of memory set aside by the programmer. By making SWI calls to a heap manager, the programmer can allocate smaller blocks of memory from the heap which you can then use to store data.

These blocks can resized and then deleted (deallocated). The overall size of the heap can also be changed. All this may seem a bit pointless, but it makes writing programs that are constantly loading and altering many items of data — for example, an application running in the desktop — a whole lot easier.

You may have heard of the standard OS_Heap SWI built into the operating system which provides a heap manager for you to use if you so desire. There is nothing wrong with this call as such, it's just that there are problems when using OS_Heap heaps.

As blocks of memory are allocated and deallocated gaps appear between the used blocks and this is called fragmentation resulting in inefficient usage, and ultimately failure to be able to allocate a block, even though if all the fragmented bits of memory, when added together, would be enough.

This can be seen in operation with the RISC OS relocatable module area (RMA), you might try to reduce the allocated area using the Task Manager — it might say 260K free — but it won't reduce by more than a few K, because that 260K is spread in between the allocated blocks, the memory in the RMA is *fragmented*.

Well the NonFragmentingHeaps module, in under 5K of code, provides a different kind of heap where the blocks can be slid about and removes any fragmentation so that the full empty space of the heap is always available for allocation.

And as it's such a small module it can be used on a 1Mb machine without any problems to do with memory. As it works in a fundamentally different way to the OS_Heap it can't be used as a replacement — many modules now rely on the fact that they (and their data) won't move, new programs can use it fully.

Not only that but if you program in Basic, you can use a special set of WimpHeap SWIs that will manage all your wimpslot changes as well.

The Acorn User Survey 1996

ON the cover disc is the Acorn User survey software for you to complete. For us to tailor the magazine to suit you the best we need your answers, the more we get the better the magazine can be.

Register your opinions now. Fill in each of the pages and save the file on to a disc which you can return to us using this address: Acorn User Survey, FREEPOST (licence SK502), IDG Media, Media House, Adlington Park, Macclesfield, SK10 4YR (no stamp required if posted in the UK).

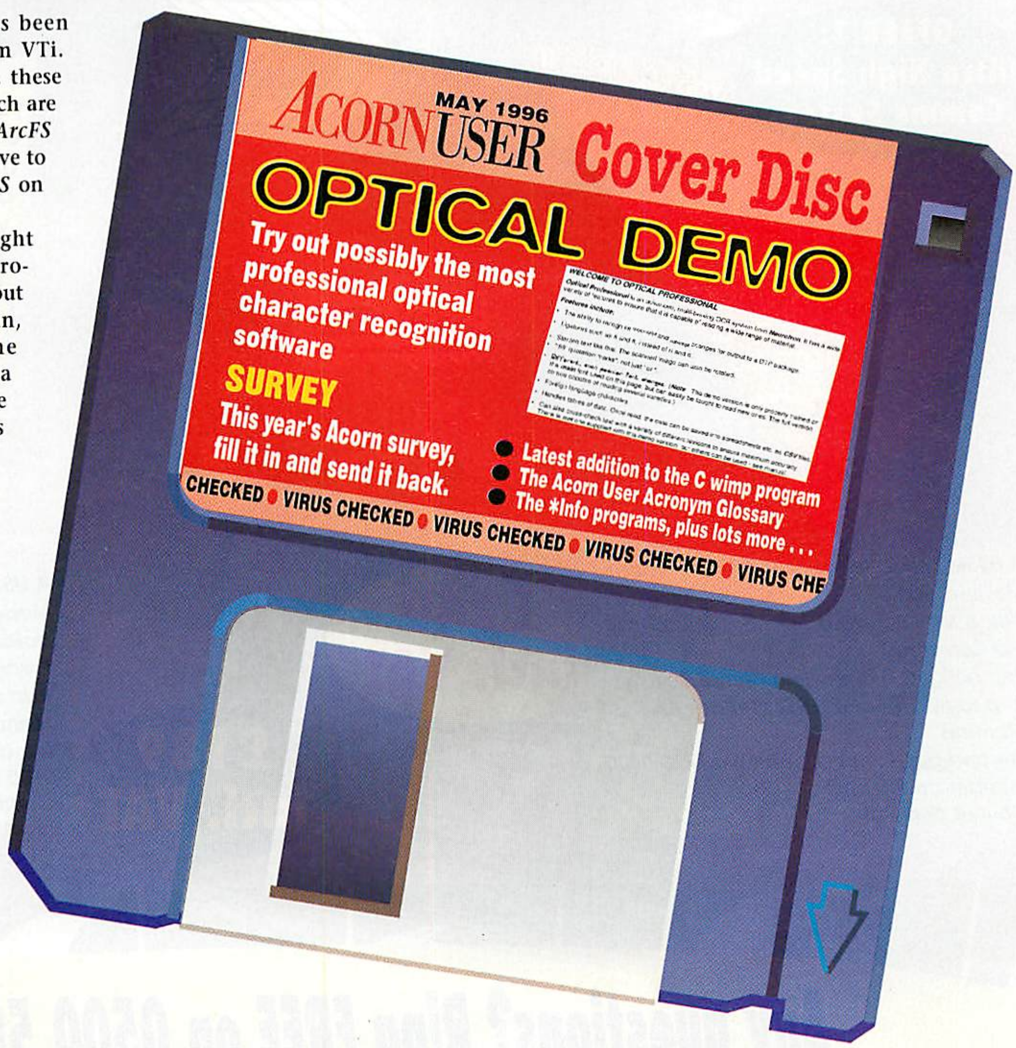
Alternatively, if you have access to e-mail, you can send it to *auspecial@idg.co.uk* . To do this ensure that you encode it first, while MIME encoding is acceptable we prefer uuencoded files. Failing to encode the file will result in it being, at best, corrupted but more likely it won't get to us at all.

Regular items

- Run the Risc includes part two of Mike Cook spinning LED disc.
- *INFO contains a plethora of demos, utilities and applications to keep you busy.
- Wimp C is now developing a program which can put up a menu on the icon-bar.

There's also an update of last month's DiscTree program which fixes a small bug.

Disc information



THE software on this disc has been compressed using *ArcFS 2* from VTi. Unlike on many previous discs, these are straightforward archives which are opened by running a copy of *ArcFS* and double-clicking on the archive to open it. There is a copy of *ArcFS* on the disc.

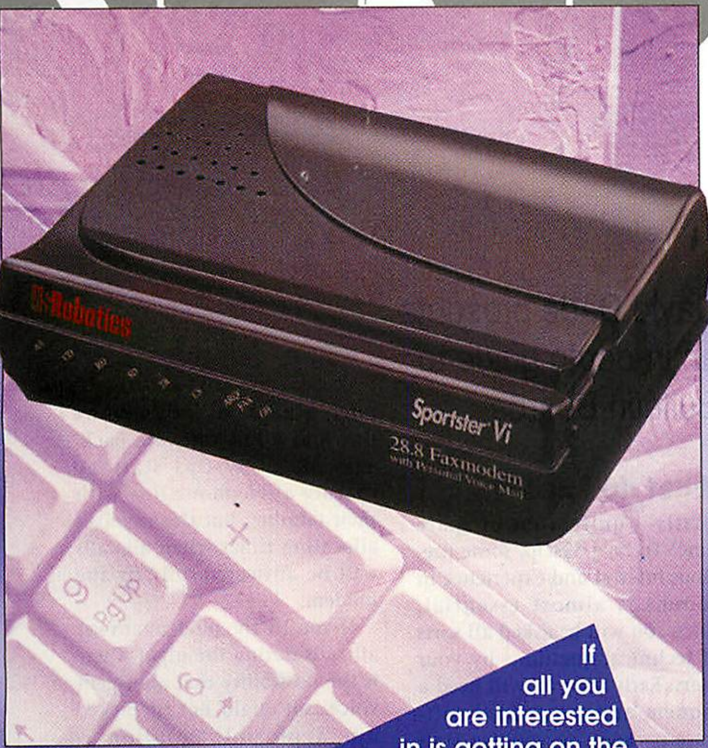
Most software will run straight from the archive, but some programs may need to be copied out of the archive before being run, uncompressing them in the process. Any program that saves a file to disc, for instance, will be unable to do so into the archives on the disc.

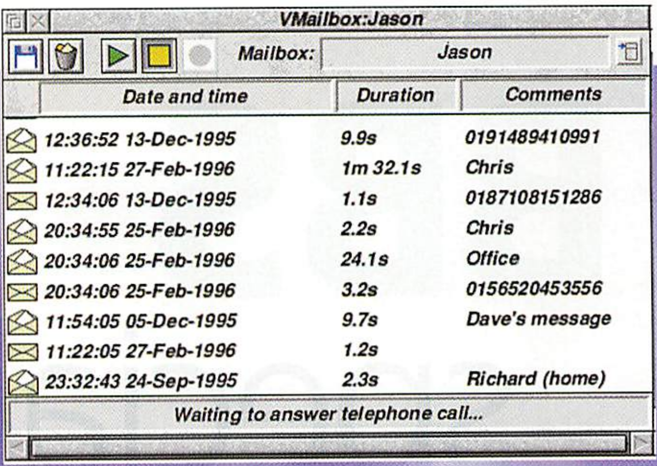
Faulty disc?

If your disc is faulty, test whether it will verify by clicking with Menu on the floppy drive icon and choosing Verify.

If it fails to verify or is physically damaged you should return it to *TIB, TIB House, 11 Edward Street, Bradford, Yorkshire BD4 7BH.* If it verifies successfully return it to the *Acorn User* editorial office at the usual address.

The *Acorn User* cover disc has been checked for viruses using *Killer* version 2.204 from Pineapple Software.





OFFER 3: The Software Solution

If all you are interested in is getting on the Net and you already have a modem then the Voyager Software pack is the one for you. The pack will work with all US Robotics and Hayes-compatible modems. If in doubt phone FREE on 0500 585 586 for pre-sales support and advice. The pack includes:

- Preconfigured Voyager Internet suite
- Argonet registration
- ✪Up to two months' FREE access
- Pre and post-sales support via a FREE 0500 number.

£59 incl. VAT

SYSTEM REQUIREMENTS: ANY ACORN WITH AT LEAST 2MB FREE ON YOUR HARD DRIVE AND A MINIMUM OF 2MB OF MEMORY (4MB RECOMMENDED FOR INTERNET USE).

Full Refund Guarantee

YES! If you are not 100% satisfied that the online world is for you within 30 days, we'll give you all your money back guaranteed! Though once you have discovered all the features this pack offers and what you can do on the Net you'll want to stay connected.

*Offer subject to availability. IDG reserve the right to replace this free gift with another should stocks run out.

Priority Order Form

Please fill in all sections

Section 1: Personal details

Name: ____________

Address ____________

____

____

Post code ____________

Daytime tel no: ____________

Section 2: Machine details

Machine: ____________

Memory: ____________

Modem (if applicable): ____________

Section 3: Order details

Please send me _ 28.8k packs @ £249* each
Please send me _ 14.4k packs @ £189* each
Please send me _ Software packs @ £59* each
Please send me _ Fast serial cards @ £79* each**

Total cost ____________

- I enclose a cheque/postal order, made payable to IDG MEDIA.
- Please charge my credit card, details of which are below in section 5.

Section 4: Your email address

We need to allocate your email name, but to make sure yours is unique, we need three different names from which we will pick one.
Please give three names, in order of preference, so for the name `John Smith` you could choose `jsmith`, `johnsm` or `smithy`, for example.

Name 1: ____________

Name 2: ____________

Name 3: ____________

Section 5: Subscription payment details

- Option 1 - I would like to pay monthly by credit card (£12.50+VAT per month) and receive one months' free access
- Option 2 - I would like to pay annually in advance and save £15 (£158.63 inc VAT) as well as receiving one months' free access
- Option 3 - I just want the one month's free Internet access
- I enclose a cheque for my pack plus my annual subscription
- Here are my credit details (Access, Visa or Amex) - please charge me as appropriate.

Card No. ....Expiry...../......

If you have opted for option 1 or 2 please tick as appropriate below and sign at the bottom; if you opted for option 3 then just sign at the bottom.

- I agree to allow my credit card to be debited monthly in advance after my 1 months' free access at a rate of £12.50 + VAT per month.
I understand that I can give one month's notice to cancel my subscription at any time. Argonet will notify users at least one month in advance of any price changes.
- I have paid £135 + VAT(£158.63 inc) for a year's access in advance.

I understand that Argonet will provide an on-going Internet connection with private email address, and free updates to the Voyager access package as they become available; and that Argonet will endeavour to the best of its ability to ensure that all services are available 24 hours a day 365 days a year and will, whenever possible, notify users in advance of changes to service.

Signed: ____________

Date: ____________

Send your completed order form to:

Argonet Offer, Acorn User, IDG Media, FREEPOST (8K 3038), Macclesfield, Cheshire SK10 4NP.

Please allow up to 28 days for account set-up and delivery.

☐ *Please tick here if you do not wish to receive promotional material from other companies.*

* Prices include VAT and delivery ** A fast serial card is required on A5000 and older machines if you wish to use a modem at its maximum speed. E & OE
✪Second month free access available if you pay annually in advance thereby saving £15.00 – the cost of one month's access. All specifications are subject to change.

BBS special

David Dade presents an in-depth guide to Bulletin Boards

A Bulletin Board System is a computer database that can be accessed from outside the machine on which it is stored. Traditionally, this access is via one or more telephone lines and modems connected to serial ports on the database host computer. Users who wish to access the system to browse, retrieve data or add more to it, dial the BBS telephone number and gain access to the data using a modem and terminal software running on their own machines.

BBS software is designed to monitor these serial ports, answer calls and offer each caller access to the stored information in an ordered way. Most BBS software packages allow storage of two main data types – messages and files. Stored messages and files are usually divided into subject areas or conferences for ease of classification and retrieval by the BBS users.

Message storage, from which the name Bulletin Board arises, allows users to read comments and information left by other users, leave replies or start new subject threads, or send private messages to other users of the system. File storage allows users to download data files or complete program applications that have been uploaded for storage and distribution to the BBS by other users, or the System Operator (SysOp).

Most Acorn-interest BBS systems offer many more facilities than in this simplified description. Games, voting questionnaires, private discussion groups and file transfer, world wide network mail to other BBSs, address books, Internet email and newsgroup access are just some of the possibilities. Running a BBS can be time-consuming but very rewarding – it's like publishing your own magazine.

What do I need?

Firstly – quite a lot of spare time! To be a SysOp, some previous interest and experience in comms is almost essential, since you will be asked all sorts of technical questions by your users. Early on, you will need a modem and a terminal software package, so you can start logging on to some other BBSs to see how they run and become familiar with the usual layout, facilities offered and jargon used.

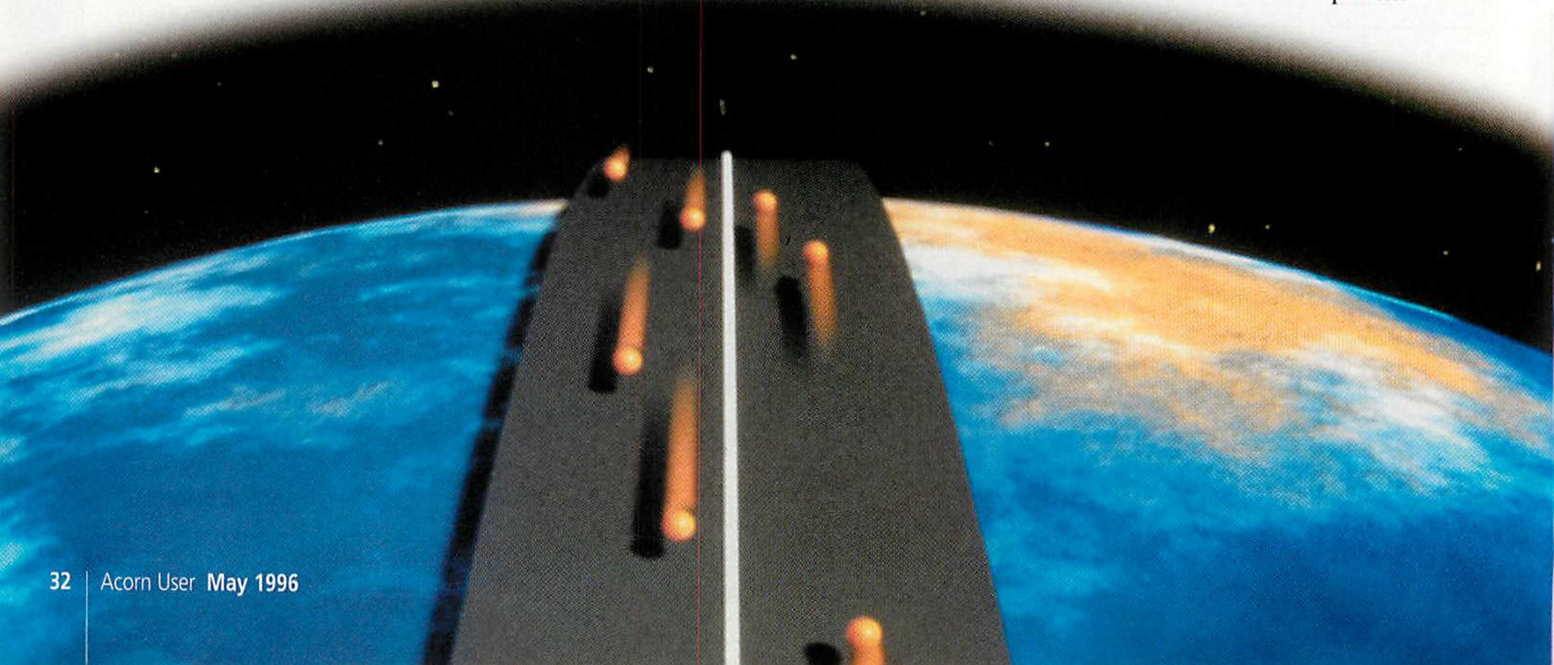
Buy the highest speed modem you can afford – 28800bps capability is the speed to aim for. You should expect to pay £200 at the most for this, and may be quite a bit less from the box-shifters. If you have an older A300/400 series machine or A3000, you won't be able to use the full modem speed but you will need it for later. These machines will also need a special 'Acorn-wired' modem cable, otherwise buy a standard 9-pin to 25-pin PC-to-Modem cable.

The technical requirements for a BBS machine are a computer (preferably Acorn 32-bit with 2Mb RAM) with a hard disc and serial port, a modem, a telephone line and a BBS software package. Many SysOps start by sharing a telephone line with their families, but this involves allocating times when all calls will be answered only by the modem.

If you let the modem answer all calls during the night, there is the possibility that an urgent voice call might not be picked up. A possible solution is offered by 'FAX Switch' devices, which re-ring the telephone if the incoming call is not from a modem but the cost of one of these could well equal the set-up charges on a second phone line. Many Cable TV companies are offering TV with telephone service at reasonable rates, making a dedicated line more affordable.

BBS software packages are complex programs that can require a considerable amount of individual configuration and customising. Fortunately, the software is usually pre-configured with an example BBS identity so that you can see how to go about altering the settings for your own system.

To get an idea of what's involved with setting up and running the various BBS software packages currently available for Acorn 32bit computers, I spoke to some SysOps who have gone though this process.



Product details

Program: !Binkley
Author: Keith Hall (and others)
Status: Freeware
Cost: n/a
Download it from: The Plasma Sphere BBS, tel: (01925) 757920/1
Also available on many BBSs: !FidoArm by Ben Brownand !FidoMail by Thomas Olsson

Arc-Binkley – your BBS doorman

Arc-Binkley is a program that almost every SysOp runs, and is used by almost every BBS caller probably without realising it. When you call a BBS and see the message 'Press Escape twice to enter the BBS', this is *Arc-Binkley* doing its job quietly and efficiently. Without *Arc-Binkley* or another program of its type, Bulletin Boards would not be able to automatically exchange messages with each other around the world using FidoNet networks.

The whole networking system is called the FidoNet Technology Network (FTN), and uses common packet and message formats for the data while allowing many different network identities. Each BBS in a network is allocated a unique numerical network identification address.

Arc-Binkley is a development of a Freeware program called *Binkleyterm*, originally written for IBM PC BBS use. It has been ported to RISC OS by current custodian and developer Keith Hall, and is available by download from Keith's BBS – The Plasma Sphere. *Binkley*, as it's often shortened to, is a very complex program but I'll attempt to describe its basic workings.

Binkley is called a 'Mailer' or 'BBS Frontend', it listens to the modem on the BBS computer's serial port and waits for the ringing signal. The program then commands the modem to answer the call and decides what kind of call is being made to the BBS that it fronts.

One part of setting up *Binkley* that often causes problems is modem initialisation. Usually the factory default settings are fine, but some fine tuning may be required. Try to avoid using 'ATZ' which often does not do what you want. The modem's default computer-to-modem(DTE) speed must be the same as specified by Baud <speed> in the *Binkley* Modem config file. Your modem manual will tell you how to check this and change it if necessary.

Having answered the call, *Binkley* sends out the 'Press Escape' message, and waits for a while to see what happens next. If the caller is a person that wants to log on to the BBS, who either presses the Escape key twice or waits 'quietly' for some seconds, *Binkley* decides that this is indeed a user call for the BBS, and passes control of the serial port to the BBS software allowing the caller to log on.

If during the enquiry stage other data is received that follows one of a number of possible pre-defined formats, the call is recognised as being from another Frontend program, often being from *Binkley* itself as set up on another BBS. After identifying it as a Mailer call, a short verification exchange takes place and a number of inter-BBS-system functions can then occur.

What's in the packet?

During a Mailer call, *Binkley* transfers files which consist of packets of data wrapped up in an binary envelope which describes the source, destination and type of data contained in them. Typically messages between users of different BBSs, either private Netmail to individual BBS subscribers or public Echomail for general reading by all, or may describe accompanying data or program files.

These packet files have filenames that tell the Mailer program what should be done with them after they have been received. In most cases, if the packet files are addressed to our system, they will be placed in a special Inbound mail directory to be dealt with by another program, typically the main BBS software, which can be informed by *Binkley* that mail is waiting to be processed.

FTN-capable BBS software can also export its messages in packets for onward transmission to other systems, and these packet files are named with the network address of the destination system. *Binkley* reads these addresses and has access to a list of the telephone numbers of these systems called the Nodelist, which is published weekly by the voluntarily-run FTN organisations, and can be configured to dial up the destination BBS and transfer the packets automatically.

What's the point?

Callers to BBSs can also take part in FTN messaging – reading and writing Echomail conferences and Netmail – by becoming 'Points' off the main BBS. A Point is a subnetwork address given to the BBS user by its Sysop and configured into a mail packet-reader program run on a BBS user's own machine. The sub-network of Points exchange messages only with their host BBS.

An FTN mailpacket reader program such as *!FidoMail* by Thomas Olsson – in essence a mini-BBS package in its own right available for download from most BBSs – is used by individual users to store, read and reply to messages at home. The user can call up the BBS with their own copy of *Binkley*, exchange mail packets and log off again quickly, perusing the mail at leisure afterwards.

Some BBS packages have messagebase import and export facilities for FTN mailpackets, and their users can access them easily, but others as yet do not have this ability built-in. The £5 Shareware program *!FidoArm* by Ben Brown has been written to add this function to *ArmBBS* software. It's obtainable from Ben's BBS – The ArchiNet on (01233) 665918.

```
   ; Arc-Binkley 2.19 configuration
file [Modem]
   ; Last updated 05/03/96 - KEH
   ; Arcade - The London Archimedes
BBS
   ;
   Port @SP_Dual #5 3
   Baud 115200
   ;LockBaud
   AutoBaud
   PreInit v`^`
   ;Init string for USR Dual Stan-
dard V.34+
   Init
AT|AT&F1|`ATS2=255S15=72S27=1S32=8S
34=8|`AT&A2&B2&D2|`ATB0E0M0H0S0=0|
   ;
   PreDial v`^`
   Prefix ATB1M1DT
   Answer ATA|
   RingString RING
   OrigString ATX0D
   Rings 1
   Connect 33600 CONNECT 33600
   Connect 31200 CONNECT 31200
   Connect 28800 CONNECT 28800
   Connect 26400 CONNECT 26400
   Connect 24000 CONNECT 24000
   Connect 21600 CONNECT 21600
   Connect 19200 CONNECT 19200
   Connect 16800 CONNECT 16800
   Connect 14400 CONNECT 14400
   Connect 12000 CONNECT 12000
   Connect 9600 CONNECT 9600
   Connect 7200 CONNECT 7200
   Connect 4800 CONNECT 4800
   Connect 2400 CONNECT 2400
   Connect 1200 CONNECT 1200
   Connect 300 CONNECT
   ModemIgnore RINGING
   ModemIgnore RRING
   ModemFail NO CARRIER
   ModemFail NO DIALTONE
   ModemFail NO DIAL TONE
   ModemFail DIAL TONE
   ModemFail DIALTONE
   ModemFail VOICE
   ModemFail OK
   ModemFail BUSY
   ModemFail ERROR
      ;ECDelay 6
      ;NoCollide
      ;ComputerLink
```

Important parts of the Arc-Binkley Modem configuration file from Arcade BBS

FEATURE

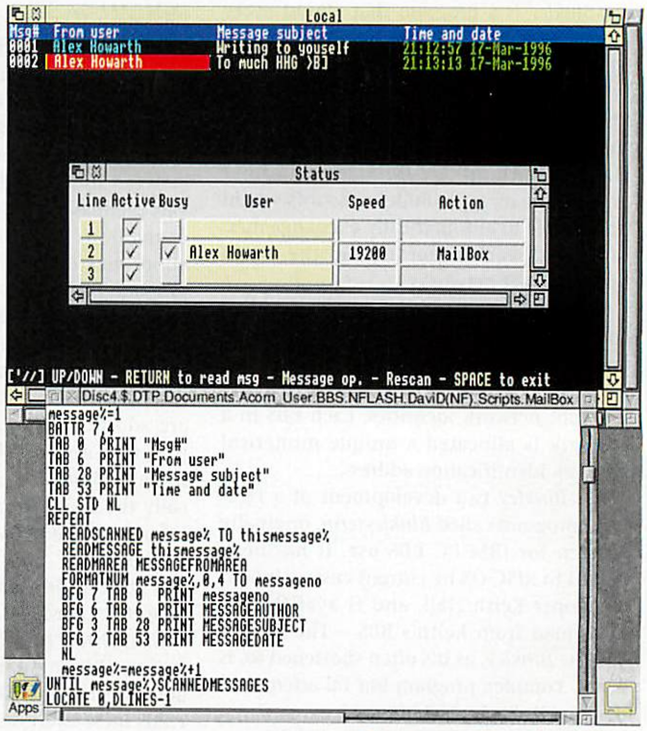
NewsFlash by Chris Davis

Newsflash is a recent addition to the range of Shareware BBS packages. Author Chris Davis suggests that there was no real need for another BBS package, but worked on it just for fun. A serious project has grown out of his fun and it can be seen in action on OuijaBoard BBS in Devon, the system run by Alex Howarth which also acts as the testbed for updates and new versions of the software.

Alex told me how he discovered *NewsFlash*. 'I wanted to start a BBS, and having seen a request by Chris in the Echoes for someone to try his new software, I contacted him and was offered a beta-test copy. I tried it out, made various suggestions to Chris who was adjusting the code and sending me new versions as I reported on them, and this collaboration has been very fruitful.'

NewsFlash differs from most other BBS software in that it is a compiled system. The package consists of the BBS itself with all the latest doors and scripts supplied, with a basic example pre-compiled system and the Compiler application. Almost all of the BBS functions are created as script files which are then compiled into one large file called 'comp'. This contains all functions including scripts and screens – for example, the Ouijaboard 'comp' file is 194k long.

Alex makes it sound easy. 'A caller enters the script at Login, and goes round a 'repeat until' loop until reaching Logoff. Other functions in between are like 'gosubs' formed from specific scripts or libraries of scripts included in the compilation.'



The NewsFlash line configuration window

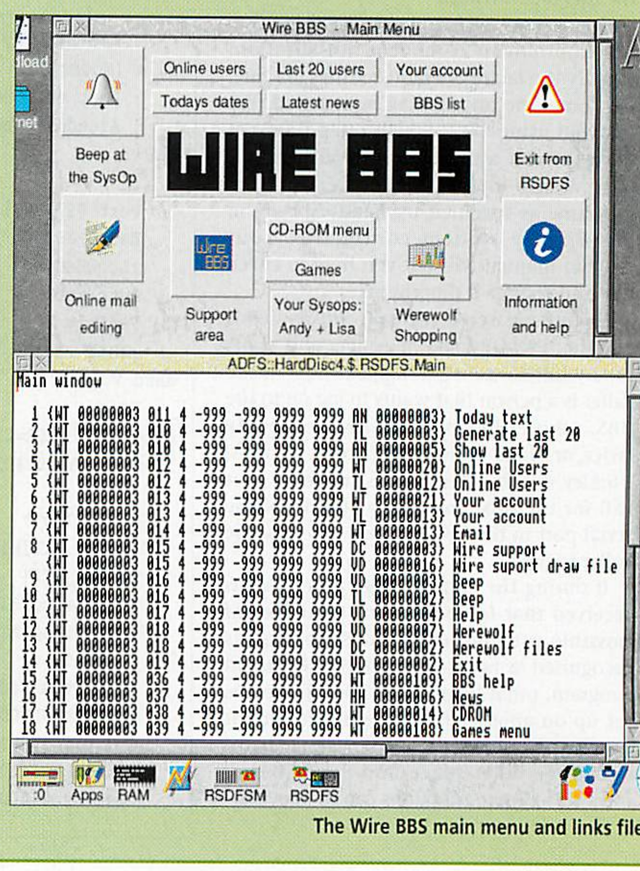
RSDFS by Chris Claydon

The *RSDFS* Immediate BBS package offers a quite different approach. It's a half-way house between using a World Wide Web browser and traditional screen-based ANSI character system. As a caller to an *RSDFS* BBS, your RISC OS desktop is extended across the modem link so that you can open directory viewers of the BBS filebase to transfer files by drag-and-drop, and open BBS menu windows all with their own clickable icons and menu options leading to further feature windows.

The software operates as a Master/Slave system, where the SysOp runs the Master package and the caller runs the slave system. The slave software can be freely downloaded by normal ANSI terminal software on the first call to the BBS, and used to call other *RSDFS* Master BBSs too. This graphics-based system really does overshadow traditional ANSI BBS screen displays even though it can support them.

It's really a two part system with the RSDFS fileserver providing the transport for file transfer, and the Multimedia server servicing the BBS menu system, with menu screens and even sound features sent to the caller's desktop automatically as part of BBS SysOp's graphic design concept. Almost everything seen by the caller can be designed individually by the Sysop, and arrives with little delay when using a high speed 28k8bps modem. 9600bps is the recommended minimum speed for connection to an *RSDFS* system.

Andy Simm with his sister Lisa are joint SysOps of Wire BBS, located in Warrington, Cheshire. I asked Andy about his experiences of setting up and running his *RSDFS* system. 'I started with the example windows and menu scripts and links that come with the package, modifying and customising them bit by bit to create Wire BBS. All you really need to edit and create



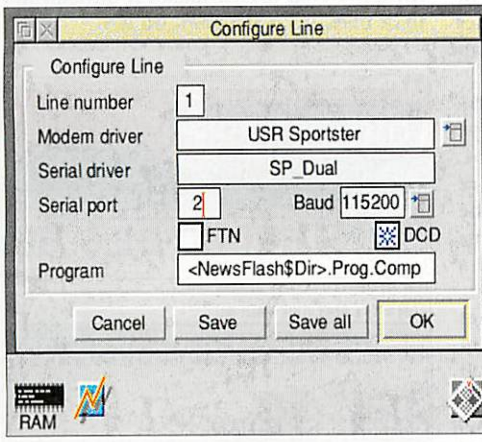
The Wire BBS main menu and links file

A challenge

Alex enjoys the challenge of writing *NewsFlash* script functions. 'The package offers a very different concept, because almost any BBS operation or function that's possible to envisage can be written in the script language. In fact someone has probably done so already!

Each new script written is added to the NewsFlash script library so that other SysOps can customise them, so that no *NewsFlash* BBS need look like any other.'

Customising *NewsFlash* is not particularly easy. The script language has to be learned, and owes something to BASIC, though the library scripts need not necessarily be modified. Quite simple changes can mean re-compiling the whole system, but speed of BBS response is the benefit of compilation. The compiler checks all script commands and paths and reports any errors, and creates the main BBS setup file.



Alex's own Mailbox and part of his script that makes it.

The *NewsFlash* messagebase does not handle FidoNet Echomail, so Alex recommends the use of !FidoMail to exchange mail as previously described. !FidoMail is used to unpack the incoming Echomail from other BBS systems and distribute it to the *NewsFlash* message base and to all the Points. Users read then and reply to Echomail on their own Point systems.

An enthusiast's package

Alex admits that it takes quite a bit of work to create a really unique system from the example BBS structure supplied. 'It's an enthusiast programmer's package that offers ultimate flexibility, but it's not really the one to go for if you want to get a BBS up and running quickly.'

To rise to this challenge and join the increasing number of *NewsFlash* SysOps who have, you can download NewsFlash from OuijaBoard BBS or get the latest version on disc by post (send an SAE please) from Alex Howarth, Little Langford, Bow, Devon, EX17 6HZ.

Product details

Program: NewsFlash
Author: Chris Davis
Status: Shareware
Cost: £10 to register
Download it from: OuijaBoard BBS on (01363) 82303 10pm-8am

new windows, menus and screens is !Edit, !Draw, !Paint and the Freeware RISC OS window template editor !TemplEd, which is supplied with *RSDFS*.'

In the Immediate system, responses to icon and menu clicks can be anything from specially pre-compressed sound files played by the slave application to new windows opening containing Draw, Sprite and text files and even ANSI graphics. RISC OS window templates are used as the menu windows for selecting other functions.

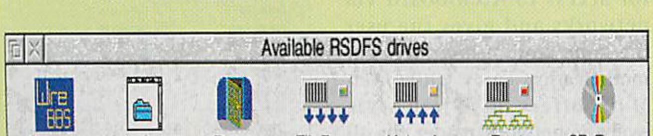
Andy explains his main menu window: 'The *RSDFS* Immediate BBS server's link file controls what happens when the user clicks on a particular icon button or menu, and the resources for the new window are then sent by file transfer to the slave in a bundle before opening the window automatically. Draw files can be used to display nice text and simple graphics.

'With careful editing of the supplied menus, you can get by for quite a while until you get used to the way the system works.' Andy is already quite an expert. 'To control access to files and applications by BBS users using drag-and-drop filer transfer, you just set public access with the RISC OS Filer to files you want to appear in the slave's directory viewers, and the others remain invisible. Whole applications can be dragged as easily as individual files or archives just as in the Desktop, but that takes a bit longer of course.'

The Wire BBS RiscPC 600 uses a Serial Port Dual serial card for the BBS modem, and is linked using *RSDFS* itself via the spare port running at 19200bps to an A3000 in another room. Chris has sold more copies of *RSDFS* for linking machines in local networks than for BBS use. He cites an Ethernet network where half the machines can have Ethernet cards, with the ones in between being *RSDFS*-connected to the network via their neighbours.

As in most BBS software, customising this package is quite a challenge, careful study is needed to understand the resource files that define the response to each click. The rather essential BBS messagebase application !MailMan is nearly ready for release, and will be a simple add-on, while support for use with *Arc-Binkley* for FidoNet operation is already present.

Currently the Immediate *RSDFS* BBS with Multimedia package is on three-week free trial to prospective and existing Sysops, though I doubt if many will produce a unique system that quickly. Try it for yourself by calling Wire BBS, or you can telephone the author Chris Claydon, who will tell you that *RSDFS* is the cheapest way to network two Acorns. Andy and Lisa Simm may agree.



The RSDFS icon bar via RSDFS

Product details

Program: RSDFS Immediate BBS
Author: Chris Claydon – ARMed Forces Software (01962) 880591
Email: sales@afsoft.demon.co.uk
Status: Commercial product
Cost: RSDFS Fileserver £38 – Multimedia BBS server £28
!MailMan messagebase server supplied free with these two
See it on: Wire BBS (01925) 482459

ARCbbs by Hugo Fiennes

Product details

Program: ARCbbs
Author: Hugo Fiennes
Status: Unavailable at present
Cost: N/A

Frustratingly for many potential *ARCbbs* sysops, this package is not currently available as a start-from-scratch system due to extended beta-testing of the current version. I mention it here both for completeness, and because *ARCbbs* was the first multi-tasking multi-line BBS software package to be produced for Acorn 32 bit machines.

Several of the longer-established Acorn interest BBSs use *ARCbbs*, including Arcade, The Digital Databank and Arctic. So why isn't it available? The author Hugo Fiennes is hard at work getting a university degree and can't spend the time he (and we!) would like on what was really his pet project. Maybe if he reads this, he'll try to find some!

ARCbbs comes as a single application with all its resources inside. I asked Steve Pursey, Sysop of Arctic BBS in West London about it. 'I had come to the Archimedes and *ARCbbs* straight from a BBC computer and a Viewdata BBS system, and at first I thought I'd never work out all those ARCbbs curly bracket colour codes, but I did. What I find is that I forget how I did things that only needed doing once. Setting up a BBS is a bit like that.'

ARCbbs has a configuration file that sets a series of RISC OS system variables that describe where its resources are. Menus, user data, mail, files, scripts and so on all live in directories specified in this file. Most other settings are in windowed editors called up from the iconbar menu.

The colour codes are a simple but effective way of making one display file serve users with different types of terminal. Colour and cursor control codes are enclosed in braces, and are ignored if the user has set a simple terminal type. Some other BBS software writers have adopted a similar principle.

Local and FidoNet messaging, Internet email and cross-network mail re-direction are supported, and a very comprehensive if fussy script language with 'C' and BASIC overtones allows really complex extra functions to be created. *ARCbbs* Door protocol is the standard for Doors on most other Acorn BBS software, and dozens of *ARCbbs*-compatible Doors already have been written by keen programmers.

ARCbbs has received brickbats for falling behind and being the BBS software has-been, but most other current BBS packages are hard-put to overtake the flexibility and reliability that *ARCbbs* systems enjoy. I can't say there haven't been problems and there are still bugs that urgently need fixing, but all software has bugs. Being an *ARCbbs* Sysop myself makes it difficult not to be biased, so I'll leave it there.



Arctic's main menu with all those curly brackets

Archiboard by Dr Keith Marlow of Supreme Software

Product details

Program: Archiboard
Author: Dr. Keith Marlow
Status: Commercial product
Cost: Basic system £65 +VAT (£55 with educational discount)
Get it from: Supreme Software Systems Ltd., 21 Courtenay Close, Chapel Break, Bowthorpe, Norwich, Norfolk. NR5 9LB (01603) 745077

Archiboard started as the author's final-year BSc project but has grown into a full commercial BBS package. The basic software includes comprehensive BBS message and filebase facilities and has built-in FidoNet handling. Particularly noted features of this package are the Networking and Internet extensions.

I asked Paul Welbank, IT teacher at Eaton School in Norwich why he chose to use *Archiboard*. 'There's simply nothing else available in school networking systems that can do the job of giving pupils email facilities with up to 12 simultaneous network logins.'

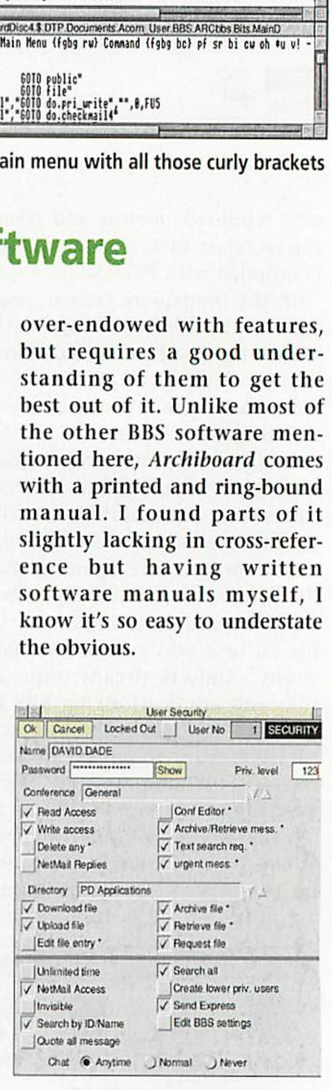
Paul admits the way has not been easy. 'It's not particularly simple to set up. The details can be enormously complex, and our system has needed a little nursing from time to time, but I've not seen anything else like it for network access. We're probably the only school in the country that has, at breaks and lunchtimes, up to a dozen groups of kids simultaneously sending email all over the world.'

Archiboard comes on three discs as three basic applications, the BBS itself – *!Bulboard*, the Setup program and *!BulUtils*, which allows details of users, conferences and file bases to be edited and examined by the operator. All such functions are password protected, and security has a high profile on this system.

Archiboard menus are created as directories containing a text control file that defines the key actions available to the user and accompanying display files for different terminal types. There is also a script language much like 'C', with integer and string data types and conditional execution which allows complex functions to be created within menus. Scripts are compiled before execution for speed.

The Good Doctor offers a wide range of *Archiboard* combination packages as well as other software and hardware. The !NetBBS client is required for access to Archiboard via networks and gives the user the same kind of interface that modem users enjoy while *!NetMail* offers a Wimp-style over-the-network reader for all the email and conference facilities of ArchiBoard.

Archiboard is well-(if not over-endowed with features, but requires a good understanding of them to get the best out of it. Unlike most of the other BBS software mentioned here, *Archiboard* comes with a printed and ring-bound manual. I found parts of it slightly lacking in cross-reference but having written software manuals myself, I know it's so easy to understate the obvious.



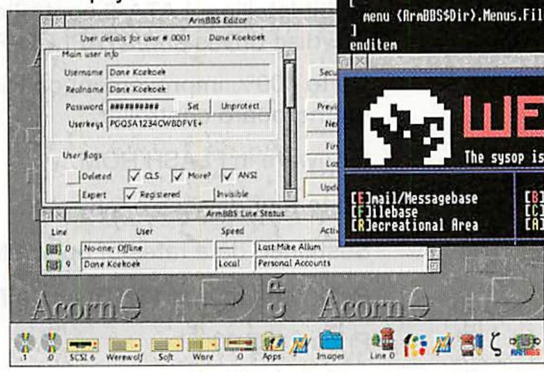
Some of Archiboard's many User Security options

ArmBBS by Keith Hall

Part of the main menu script and what you see online



The ARMbbs user editor and Line status displays



Product details

Program: ArmBBS
Author: Keith Hall
Status: Shareware
Cost: 1 month free trial (1 line with up to 20 users) – £25 to register
Download it from: The Plasma Sphere BBS tel: (01925) 757920/1

ArmBBS is probably the most popular BBS software package of those currently supported. I talked to Dane Koekoek, Sysop of The Werewolf BBS in Bromley, Kent about his experiences with *ArmBBS*. 'The software comes set up as a basic image of Keith's Plasma Sphere system, so that updates to the software are more easily maintained and distributed. Most of the system's setting up is by text configuration files. I used these example set-ups to start building Werewolf BBS.'

The system configuration directory contains text files that define the location of resources such as the message and filebases, modem initialisation strings, serial port number, block driver and so on. The message and file area names and access conditions are set here too, together with other relevant flag characters.

Dane describes the way *ArmBBS* uses scripts: 'Menus and functions are written in a script language not unlike 'C' source code, so you can use a simple text editor like !Zap to create or modify them. The script file for a menu defines both the actions the software will perform when a key is pressed and the screen output that the SysOp wants the user to see.'

Scripts are interpreted 'on-the-fly' so that testing newly-created functions can easily be done by the SysOp using the 'local' logon window. The script system makes menu and screen design very flexible, and almost any action can be performed by the comprehensive script language.

By now Dane is no longer a beginner with *ArmBBS* and has completely transformed the example system into his own creation with complex menu structures and new functions. Werewolf BBS has over 162 users and almost all have their accounts set to the ANSI terminal settings, so graphics screens are much in evidence.

This screenshot of part of Dane's Werewolf BBS main menu script and the corresponding screen illustrates how the menu is built up. A list of item definitions shows what keypresses are recognised and the action that will follow if that key is pressed by a user.

The characters to form the screen output can follow the definitions in the same script file or can be intermingled with them so that conditional screen output is possible. The inset window shows some ANSI characters from the end of the script that form part of the menu screen.

Filebases can be of two forms. The original system uses numeric filenames with 70 files to a directory. *ArmBBS* automatically increments the file numbers in the directory structure as new files are uploaded. The file details are held in text files within the filebase directory structure.

The 'Freeform' filebase format recently introduced enables users to move up and down normal RISC OS directory trees to download files from a selected directory on such sources as CD-ROMs and other hard discs.

FidoNet networking with *ArmBBS* is handled primarily by external programs, but the program fully supports operation with *Arc-Binkley*, discussed next.

ArmBBS can also be expanded using Hugo Fiennes' *ARCbbs* door module which allows external programs to access the BBS software's own resources. Because most of these BBS packages support the same Door protocol, various authors have written dozens of Doors which will usually work with different BBS software.

The author Keith Hall says that he has a long list of improvements and new features in the pipeline, so if you choose *ArmBBS* please do register to get access to the latest free updates and developments.

The final logoff?

Will Bulletin Boards survive as a species or will they all become extinct like the dinosaurs after the impact of the meteoric Internet explosion? I asked some BBS and Internet users what they thought about the future of the BBS phenomenon.

Most agreed that there is room for both, but things will not stay as they are. One view was that most people who have computers but not modems will now buy a modem to get onto the 'net, but it's unlikely that they will bother trying dialling in to any BBSs, especially when their Internet access is most probably only a local call away.

Added to this is the fact that while they are calling the Internet, their software can be uploading email, downloading news, and fetching a file from Stuttgart all while they are chatting away on IRC. There are not many 'Acorn' BBSs (but there are one or two!) where you can do something like this.

A suggestion to make a BBS more attractive to net-aware users was to engineer a live gateway to the Internet from the BBS, so BBS users could hook into the net from there. Apart from the technical hurdles, I wonder if this might not be stretching the terms of a low-cost account with an Internet Access provider just a little bit.

The view was expressed that there was a special 'coffee-shop' atmosphere on a BBS, where you call in because you expect to know at least some of the people you encounter there. I think this is very much the case. Internet-based gatherings, by their nature, tend to be global and it's hard therefore to maintain a regional or specialist flavour.

One person put it like this. 'Calling a BBS is like going out to visit people you know, whereas on the Internet it is like mingling in a crowd in the hope that you may meet someone who shares an interest with you. The fact that there are so many people on Usenet means you have to make some form of selection as to what sort of things you wish to talk about before you even get talking.'

So how do we encourage them to keep calling BBSs? Another respondent may have the answer. 'As long as the Internet remains a luxury, we'll still have bulletin boards, but as soon as everyone has Internet access, I reckon a lot of bulletin boards will move to the Internet just so people can keep in touch.'

On Arcade BBS, we've had some very encouraging results with our weekend Web and FTP server, and some limited technical success with a 'very-beta' piece of software designed to allow Internet access by Telnet to extra Arcade BBS ports. One of the first callers to log on was a user in Greece who was really pleased to be calling us at local rate.

I don't think we'll close down the phone lines yet though, for as another respondent said, 'BBSs will continue to run while there are enthusiasts to run them and enthusiasts to ring them up.' So far, the calls are still coming.

PD CD-ROMs

Chris Jackson takes a look at the range of PD silver discs on offer

A year or two ago, if you owned a CD-ROM, people thought you were made of money. The CD-ROM only became a mainstream device on the Acorn machines when *Acorn User* took the adventurous step to stick a CD on the front cover, whereupon everyone and their son seemed to own a drive!

PDCD1, the first Acorn public domain CD-ROM was a joint project between The Datafile and the then newly formed CD Circle, and was a great success. Six months later *PDCD2* came on to the scene and was quickly joined by *The RiscDisc* from Uniqueway, who were previously only known for their Acorn Replay facilities.

Since then a range of PD CDs has been released, including a couple from the above companies and five from two Acorn companies in their first venture into CD-ROM production.

RiscDisc 2

This is the second volume in the *RiscDisc* collection from Uniqueway. It has a very professional hypertext front-end with excellent graphics. Welsh or German language help screens have been included on the disc which is good as both are seen as major Acorn markets.

The variety of files is quite diverse, and are all presented in an easy to find manner. I was pleased to see a whole host of HTML (Internet WWW) pages taken from 16 well-known sites including Demon and Acorn. There are also two WWW browsers, ArcWeb and Webster which are configured to allow you to browse the pages as if you were on the 'net. I have to praise *RiscDisc2* for its collection of programming utilities, it contains many files that programmers will find extremely useful.

Unique to *RiscDisc2* is its use of 'long-filenames' which are permitted in the CD-ROM standards. This is demonstrated on *RiscDisc2* in the WWW and Electronic Book directories, the latter containing over 150 well known books such as The Jungle Book and Alice In Wonderland.

I preferred to use the filer to find files rather than the hypertext viewer, because it can become quite cumbersome when you want to find the odd file and have to boot the whole application.

PDCD3

This is the third disc in the highly successful *PDCD* series from the Datafile. This time however, the Datafile front-end has been improved, and now allows you to click on files in the listing which opens the appropriate directory viewer. Unlike the front-end of *RiscDisc2*, it isn't as imposing on the desktop, and is much more useful for finding files.

When DataStream PD closed down a few months ago, the Datafile took over the distribution of the *Red Dwarf* files which they had built up over the years. *PDCD3* is the first CD with these on, and they are accompanied by a variety of *StarTrek* files in a number of formats.

Of all the CDs, *PDCD3* contains most files, and they are of the highest quality. There are 20Mb of Psion organiser applications, which will be a real boon for PocketBook owners as they will be able to port the applications over, using ALink. The Psion files are all arranged into 12 sub-categories which was very useful.

PDCD3 is the only disc in the review accompanied with a paper manual. It lists all the files on the CD in their respective categories which is useful if you want to locate a file when you're not at the computer.

Arm Club CD

I was surprised to find that the Arm Club had produced a CD-ROM. With hindsight it is a logical thing to do, considering that they have a large collection of public domain for their members to delve into.

The files are indexed using a *Pipedream* database, with each separate part of the disc having its own *Pipedream* file. This is useful, and gives you a quick look-up to see if a file is present, but it doesn't allow you to run the file or show you where the file is, which is often irritating when you want to quickly locate something.

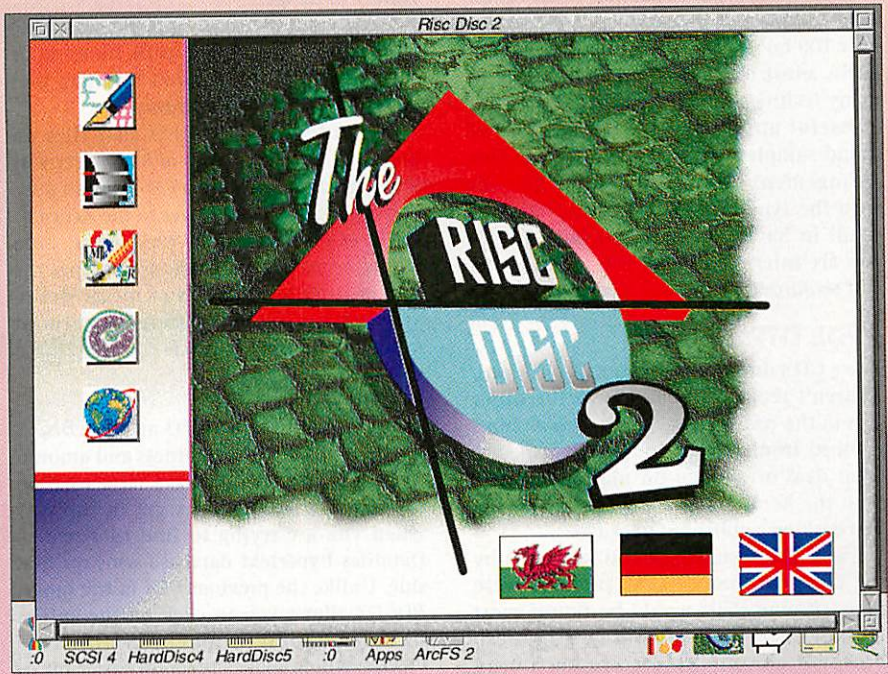
There are 13 categories of files and like *PDCD3* a Psion organiser area contains literally hundreds of Psion applications. Most of the files on the disc are compressed using *ArcFS* archives which allows more files to be squeezed on but makes it harder to find the application that you are looking for. The files on the CD are well organised, and I was surprised at the number of files available in each category.

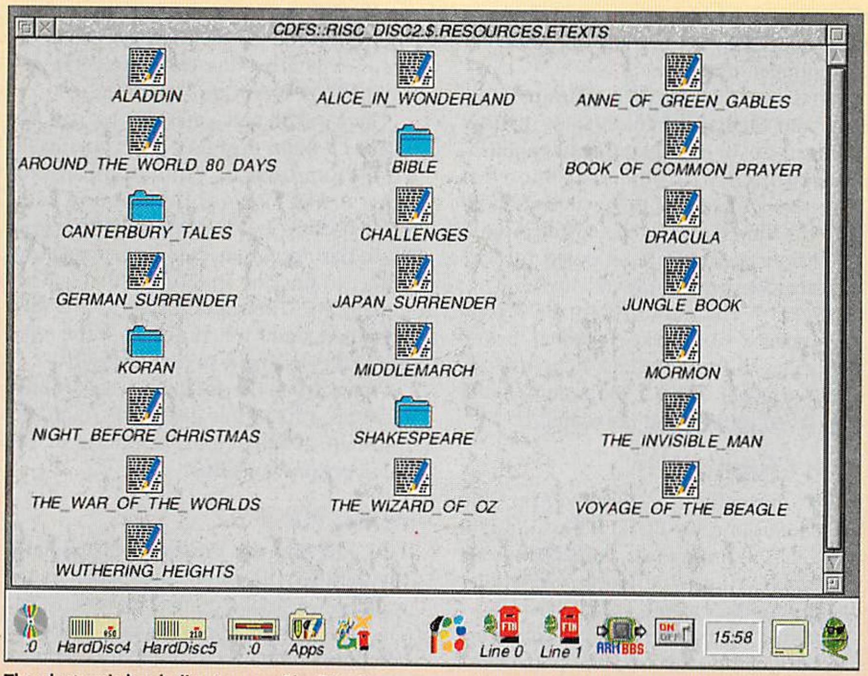
Apart from the mediocre file finding facilities, I liked this disc, and would recommend it particularly because of the Psion organiser utilities.

APDL PD1/PD2

PD1 and *PD2* are the first ventures into the so-called CD shovelware market by the well-known public domain library, APDL. The CD's contain approximately 500Mb of compressed data each, sorted into 35 categories on *PD1* and 12 on *PD2*.

A text-based catalogue of the files is on





The electronic book directory on Risc Disc 2

the CD with paragraph descriptions for each application, I would have preferred to see a hypertext front-end, but the text file made it quicker to find a file using the search facility on !Edit.

An *Impression Publisher* booklet of the catalogue is on the disc, which would be more useful ready-printed to accompany the CD.

I found a few programs I have never come across before including some of those in the Technical directory, there were a number of disc magazines I've never heard of either!

Unlike the other discs, *PD1* and *PD2* have separate types of files on them rather than a mixture. For example, *PD1* contains over 100 books, including the King James' Bible, most of Shakespeare's works and many technical documents and is also full of useful applications. *PD2* has lots of sound samples, graphics and demos. This arrangement allows you to buy the CD with the type of files you want, but may result in having to purchase both CDs if you are interested in all the applications and resources.

APDL DTP1/DTP2

These CD's don't contain any applications, so aren't really comparable to the other CDs in the review. They are full of pictures grabbed from various sources (I suspect a great deal originated on platforms other than the Acorn), and are intended for use in a desktop publishing package.

I was rather surprised and saddened by the fact that many of the pictures were monochrome. This would be fine if most DTP users had dot-matrix or laser printers, however colour inkjets are becoming increasingly popular and so there would be little use in using mono pictures.

The graphics are all converted to native Acorn formats, *Sprite*, *Draw* and, on *DTP2*, *ArtWorks*, which allows for quick and easy importing into a DTP package such as *Impression*.

A front-end system comes with both CDs and allows you to access the disc, and it may come into its own when trying to locate a certain picture rather than just browse.

I preferred *DTP2* to *DTP1*, probably because it included *ArtWorks* files on the disc, however both CDs contain a large variety of images.

DTP1 comes with a supplementary disc with about 8 files which APDL found to be corrupt on the CD, I didn't find any files on *DTP2* which were corrupted.

One interesting point is that files on both CDs have filenames of 8 characters or less so that you can use a CD-ROM on a PC and then port the files over to the Acorn.

These CDs would be very useful on a school or college network, as it allows the system to have hundreds of megabytes of artwork available to students without using any hard drive space.

Conclusion

The cataloguing of *PDCD3* and *RiscDisc* is excellent, I like the brightness and amount of graphics that Uniqueway have used on the *RiscDisc*, but it does get in the way when you are trying to find files and so Datafiles hypertext database wins on that side. Unlike the previous CDs in the range, *PDCD3* allows you to click on the entries in the database to open its directory viewer, which makes life a lot easier for us mice-conservationists.

The Arm Club CD offers limited cataloguing facilities, leaving you to trudge through the disc yourself which can get very tedious. The facilities on APDL *PD1* and *PD2* were slightly better as they offered longer descriptions, but still didn't compare with *PDCD* and *RiscDisc* front-ends.

The *DTP* offerings, from APDL, would only be of much use to regular newsletter creators or schools. If you were to buy one of the two *DTP* discs, I would recommend the second in preference to the first. AU

Product details

Product: Risc Disc Volume 2
Supplier: Uniqueway
Address: 42 Crwys Road, Cardiff, CF2 4NN
Tel: (01222) 644611
Fax: (01222) 644622
Price: £25

Product: PDCD3
Supplier: Datafile
Address: 71 Anson Road, Locking, Weston-Super-Mare, Avon, BS24 7DQ
Tel: (01934) 823005
Fax: (01934) 823005
Price: £25

Product: Arm Club CD
Supplier: The Arm Club
Address: Freepost ND6573, London, N12 0BR
Tel: 0171-624 9918
Fax: 0181-446 3020
Price: £20

Product: APDL PD1/PD2/DTP1/DTP2
Supplier: APDL
Address: 39 Knighton Park Road, Sydenham, London, SE26 5RN
Tel: 0181-778 2659
Fax: 0181-488 0487
Price: £19.50 for PD1 or PD2 or £35 for both £24.50 for DTP1 or DTP2 or £45 for both



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Victorians, Landscapes Each(LL) £46.00a
RiscDisc 2 (Uniqueway) £20.00a

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Advantage (LL) £46.00a
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Ancestry II (Minerva) £75.00b
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Lemmings RiscPC (Krisalis) £21.00a

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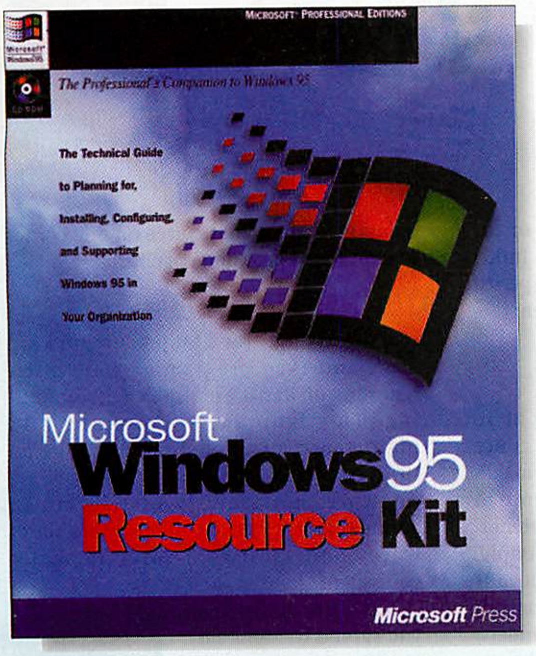
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Wavelength (G/W) £12.00a
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Terms: All products, prices and specifications are offered in good faith and are subject to change without notice. We Process all orders immediately, but suppliers do sometimes keep us waiting. Goods are guaranteed but are not supplied on approval. Returns and cancellations can only be accepted by prior agreement and there may be a restocking and administration charge A full copy of our terms are available upon request.
E.&.O.E 26-03-96



PC books reviewed

Just this once, Clem Vogler casts a critical eye over a selection of PC/Windows 95 books

PC card users will be heartened to find that they are not alone in getting to grips with an unfamiliar operating system. Diehard DOS and Windows addicts are equally at sea with Windows95. Indeed, some features like multitasking are old hat to RISC OS cognoscenti. As a guide to some of the many books available on W95 and it's favourite application suite, Office, *Acorn User* has temporarily abandoned its NANI policy (not Acorn, not interested) and gives you the low down.

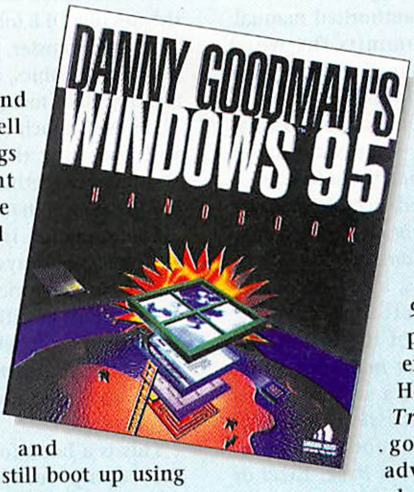
Microsoft Press's Windows 95 Resource Kit

This book is for serious users. Barely released, it has already become the standard reference work for W95 professionals. It is two inches thick, well-bound, so it lies flat at any page you require, uses colour and illustrations sparingly but effectively and is utterly devoid of any wit or humanity!

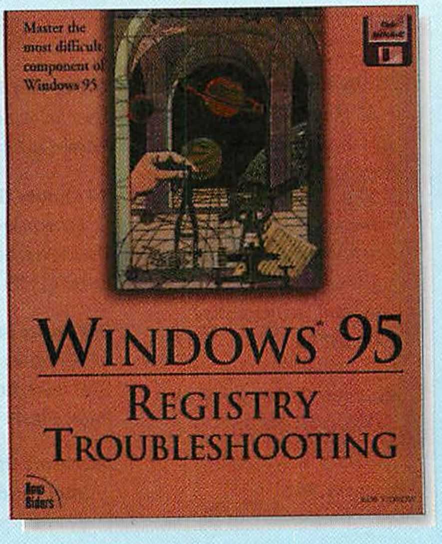
There is a CD with utility programs, a meticulous index of over 80 pages and some invaluable appendices, such as manual pages for the command line and a catalogue of the files on the system. It gives encyclopaedic detail on installation, configuration, networking, system administration, communications, font management, printing, applications support and just about everything else. It gives instructions for connecting to LANtastic, Vines and many other networks; even, magnanimously, OS/2 LAN Server!

Windows 95 Registry Troubleshooting

The Registry is a feature not seen in previous incarnations of Windows (except NT). It is where the sort of configuration details formerly handled by config.sys, autoexec.bat, system.ini and win.ini are kept, as well as the hardware settings required to implement plug and play. Some users have been puzzled as to whether Windows 95 uses a DOS underlay or not. The answer is that it needn't, but to preserve backward compatibility with applications designed for DOS and Windows 3/3.1, it can still boot up using the old DOS initialisation files.



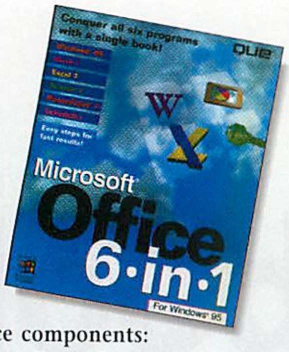
As 32-bit true Win95 applications become common, these unlamented legacies of the past will fall into disuse. Registry troubleshooting is therefore an important task for system administrators, and this new book provides a guide for suitably qualified users. Suitably qualified meaning people who appreciate the disastrous consequences that can arise from ill-considered editing of registry files. Parts of this book bear a suspicious resemblance to the Registry sections in the *Windows 95 Resource Kit*. At this price one is entitled to expect original material. However, *Win95 Registry Troubleshooting* gives a good deal of practical advice not available elsewhere and if you need to edit registry files you may, currently, find little else to guide you.

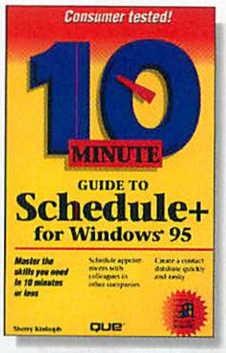


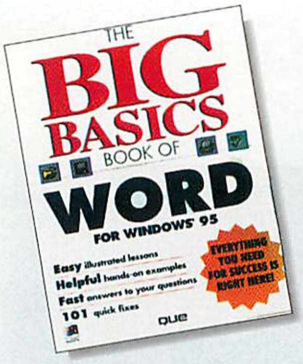
Danny Goodman's Windows 95

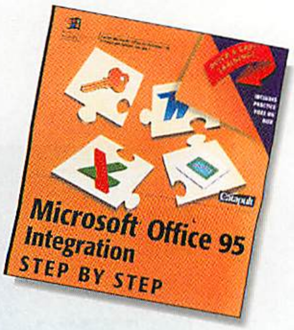
Beginners to Windows 95 need look no further than this. Its clever format emulates Win95 on paper, with sections and chapters indicated by pull-down menus at the top of each page. The presentation is lavish: full colour, large format, lays flat and is easy on the eye. The introduction is concise: a couple of pages of contents enhanced with screen-shots and icons and a double-spread explaining the layout of what follows.

Then straight into the hardware section, with chapters on keyboard and mouse, video and memory. Win95's shortcut wizard (an icon with a hypertext link to a different topic) is neatly used to embed cross-references in the text without needing footnotes. There is a giant troubleshooting section, which carefully separates the explanation of a problem from its solution. The index and glossary are imaginatively merged. Best of all, the style is matter-of-fact, terse and clear.









Office 6.in.1

Users with the ideal software combination of Windows 95 and MS Office will be attracted to any book which covers all the various Office components: *Word, Excel, Access, PowerPoint* and *Schedule+* from a Windows95 standpoint. As well as coverage of the individual applications they will expect to find advice on integration and on Windows95 related performance features. How can a *Schedule+* contact list be used to import addresses and salutations into a *Word* letter? What's the difference between *Autotext, Autocorrect* and *Macros*. How can you launch *Explorer* with a mouse right click?

Well, they won't find it here. Despite the shameless plagiarising of Win95's cloudscape for the cover, to suggest that this is somehow an official or authorised manual, this wordy volume commits the worst offences of technical manuals. Most of the book is devoted to descriptions of the obvious such as what screens look like and what menu options there are. You can discover this for yourself by running the software.

Lots of superfluous verbiage like *perhaps you need to give a friend or co-worker a copy of your To Do list or Contacts list.* Poor indexing, with omissions, inconsistent tabulation and unexpected references. Astonishing omissions of important features like *Word macros* or *mail merge* and, despite the inclusion of a section called *working together*, no discussion of crucial integration issues like the pros and cons of using *Contact List, Address Book, Excel* or *Access* as the basis of your names and addresses database.

10 Minute Guides to Schedule+

This is merely the *Schedule+* section of the above discussed *Office 6.in.1* and is even worse value at half the price for one sixth of the information. There is no acknowledgement that this is an extract from another book.

Big Basics Book of Word for Windows 95

If you really can't drive *Word* without a six hundred page manual, this one is better than most. It really is aimed at dummies who don't know what the mouse buttons do and can't work out the options in a menu for themselves. Readers of this magazine are more likely to be whiz kids than dummies, but they may, like my wife, be married to one.

If your spouse rings you up at work to enquire how to right-justify a heading, you could do worse than buy him this. It has clear guided tours which make doing things so simple you know you didn't need to ask in the first place. It covers the important bits and costs less than some of the books that don't. It's big enough to inflict serious injury to your spouse if they persist in ringing up after you've given it them.

Microsoft Office 95 Integration step by step

This is a tutorial guide consisting of 16 lessons and a disc of practice files. Since the high level of integration is what makes MS Office so appealing, it makes sense to become proficient at using these integration features. This book provides simple, well structured tuition covering relevant themes like OLE (object linking and embedding), file transfer, pivot tables, MS Binders, inserting graphics, charts and other objects, creating mail merges and message routing. There is so much summarising, previewing and reviewing that it becomes a treat to encounter something new, but at least the lessons are well hammered home.

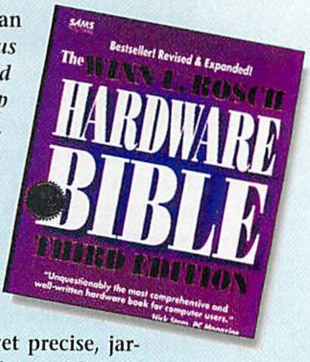
One omission is an adequate treatment of the several ways of implementing name & address directories. I liked the discussion of the merits of different ways of achieving a common goal: when one should use *linking* rather than *embedding*, for example. These issues are not usually dealt with by help screens.

This is a book for users who are reasonably competent with the individual applications, *Word, Excel* and so on.

Experienced users will find the pace undemanding, but may well be surprised to pick up a few tips on the way about things they thought they knew backwards. Among the virtues trumpeted on the back cover is the claim that this book has a layflat binding to make it stay open while you work, but I still found it necessary to balance a cup of cold coffee on one corner to counteract creeping page turn.

The Hardware Bible

It's surprising how competent software users and even programmers are often ignorant of hardware aspects of computing. This ignorance, and sometimes indifference, may impose limitations on their computing skills of which they are unaware; particularly in relation to Tannenbaum's famous dictum that hardware and software are logically equivalent.



If you are vaguer than you should be about *bus standards, plug and play, video RAM, chip sets, flash RAM, caching, interrupts* or *comms protocols* you need a hardware text and this one is unbeatable. Comprehensive and bang up-to-date. Well written in informal, yet precise, jargon-free English it claims, with justice, to meet the needs of both beginners and advanced users.

It achieves this surprising feat by outstandingly good organisation of subject material and by a presentation which is rigorous but not academic. Despite its 1200 pages you could read this from cover to cover and emerge, not just well informed about current PC standards but with a good basic understanding of the hardware aspects of computer science and a historical perspective on the development of the microcomputer as well. AU

Book details

Danny Goodman's Windows 95 (Random House)
User level: beginner.
Price: £27.49

Windows 95 Registry Troubleshooting (Rob Tidrow)
User level: accomplished
Price: £37.49

Windows 95 Resource Kit (Microsoft Press)
User level: accomplished
Price: £46.98

Office 6.in.1 (QUE)
User level: beginner
Price: £24.99

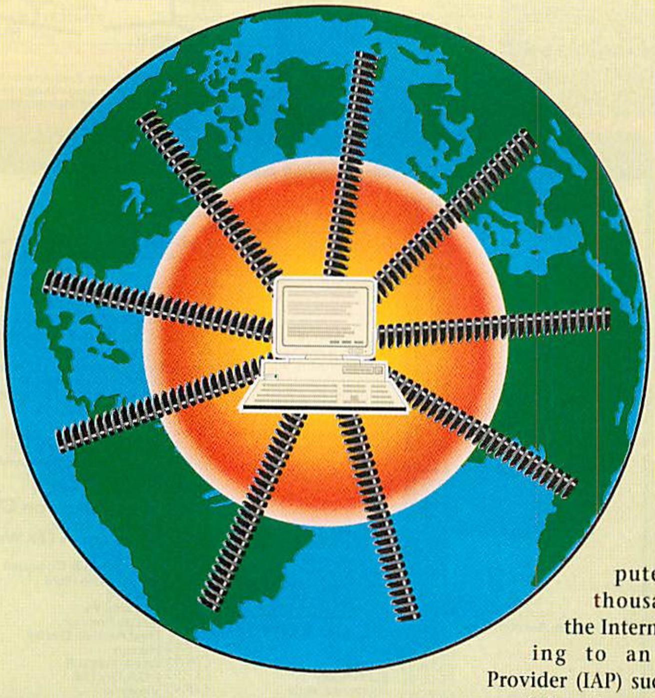
10 Minute Guides to Schedule+ (QUE)
User level: beginner
Price: £11.99

Big Basics Book of Word for Windows 95 (QUE)
User level: beginner
Price: £18.49

Microsoft Office 95 Integration step by step (Microsoft Press)
User level: intermediate
Price: £27.99

Hardware Bible (Win L Rosch)
User level: beginner - advanced
Price: £26.95

All titles available from Computer Manuals, 205 Formans Road, Sparkhill, Birmingham, B11 3AX. Tel: 0121-706 6000 or HTTP://WWW.COMPMAN.CO.UK



Making

Keith Milner explains how the Internet operates

With the explosion in the growth of the Internet, many people are confused about how the Internet works, and how they can access it. This article attempts to explain some of the technology behind the Internet.

The Internet is, basically, a worldwide communications network for computers. This network has been created from a bunch of devices known as *routers* connected together by communications lines. These lines can by anything from a modem link over a normal telephone line, to a dedicated, high-speed digital connection.

On the Internet, all data is broken into pieces before transmission. These pieces are known as *packets*. Every packet has a unique address indicating where it should go.

The role of the router is quite simple – it directs the data towards its destination. A router can be thought of a bit like a postal sorting office, with one key difference being the speed at which a router works. A typical router can 'sort' many tens of thousands of packets every second.

In the sorting office, the sorted letters are either put in the appropriate van, for onward transit to another sorting office, or are given to the local Postie for delivery to the final destination. Routers are similar – the sorted packets are directed down appropriate communications links to either another router, or to a computer.

There are lots of different communications protocols available. The one used on the Internet, is called Transport Control Protocol/Internet Protocol, or simply TCP/IP. In fact, this protocol is where Internet gets it's name from.

When you connect your Acorn computer to the Internet, you are simply creating a connection between your computer and one of the thousands of routers on the Internet, typically belonging to an Internet Access Provider (IAP) such as Demon, Pipex or any of the others. This connection can be either a modem link, an ISDN link, or a dedicated *leased-line* connection – explained below.

Internet by modem

Dial-up modems are a cheap and convenient way of temporarily connecting the serial port on your home computer with the serial port on a router somewhere.

The modem is merely a device which converts the digital data from the computer's serial port into an audible signal suitable for transmission over a standard telephone line, and then another one converts it back at the other end.

When you dial into the Internet, you are connecting to a modem at the other end. This modem is connected into a router. The Internet software on your Acorn computer provides a TCP/IP *stack* – a programming interface for applications to communicate across the Internet. This will use a serial packet protocol such as SLIP (Serial Line Internet Protocol) or PPP (Point to Point Protocol) to communicate with the router across the modem link, and to therefore send data into the Internet.

The need for speed

With large amounts of data being transferred across the Internet, speed of access is all important.

The speed at which data can be transferred on a modem is limited by the audio quality of the telephone system, and the sophistication of the modem encoding. The top limit is currently around 33,600 bits per second on good quality lines. This is unlikely to improve much further.

The majority of the UK telephone network is now digital: telephone calls on a digital network are, at some point, converted from an analogue signal into a digital (1's and 0's) signal running at 64,000 bits per second. For most telephone users in the UK, this conversion happens in the local telephone exchange at the other end of the wire that leaves your house.

The reason for doing this is that digital signals are far less likely to suffer from the unpleasant effects of line noise, distortion and so on, and are far easier for the telecoms company to manipulate across the network efficiently.

If the telephone network is digital, why do we need modems? Why can't we plug our computer's directly into this high-speed digital network, and get rid of the modem? Well you can: it's called ISDN.

Getting faster

ISDN stands for Integrated Services Digital Network, and provides direct digital communications end-to-end (i.e. computer to computer) across the telephone network. Very simply, the digital network is extended into your home.

The transmission speed is 64,000 bits per second (64kbit/s), which is the data rate required by telephony-grade digitised speech. This is approximately twice as fast as the fastest modem you can buy, and is not dependent on line quality.

The ISDN



the connection

64kbit/s channels are known as *B-channels*.

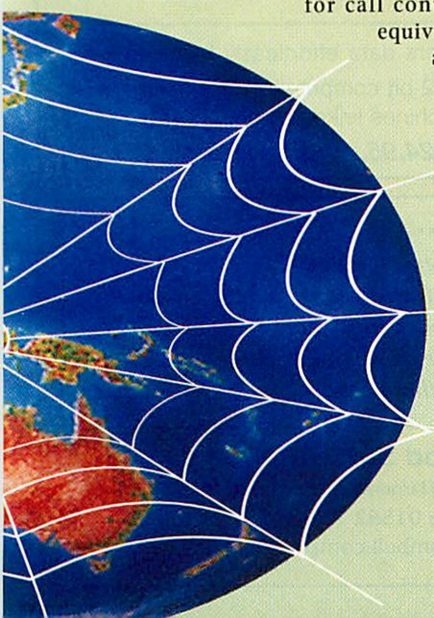
Although fully digital, ISDN is backwards-compatible with normal telephone lines, so it is possible to make voice calls between ISDN and normal lines. A special ISDN telephone is required to perform the conversion between the digital and audio signals. Full digital 64kbit/s connections are only possible when both ends of the call are using ISDN.

There are two main flavours of ISDN: Basic Rate (BRI) and Primary Rate (PRI)

Basic rate ISDN is designed to be able to operate over the same low-grade wiring that is used to support normal telephones. It is often known as '2B+D' as it provides two 64kbit/s B-channels and a shared 16kbit/s *D-channel* used for call control. BT sells a BRI service under the name ISDN2.

Unfortunately, normal telephones and computers won't connect directly into an ISDN line, special ISDN-compatible equipment is needed. The most common type are known as Terminal Adaptors (or TAs).

TAs are the ISDN equivalent of modems. They provide an interface conversion between a computer serial port (normally RS-232) and the ISDN line. They usually also provide access to the D-channel for call control; this is equivalent to the auto-dial capability on a modem. In fact, some TAs use the same Hayes command set as most modems.



Other forms of access

With the popularity of the Internet, people are looking at a number of other ways that people can easily use to access the Internet. Examples include Cable modems for access via your local Cable TV network, and broadband networks, giving ultra high-speed connectivity for business customers.

TAs can communicate across ISDN at the full 64kbit/s B-channel speed. However, many computer ports will not communicate at this speed. To accommodate this, some TAs provide a facility known as 'rate adaption' which downgrades the information flow to that of the computer serial port speed (for example, 19,200 bit/s). This facility also allows serial ports at each end of a dial-up ISDN link to be running at different speeds.

Primary Rate ISDN (PRI) is aimed at locations which require multiple telephone lines, such as offices. The definition of PRI varies throughout the world, but in Europe it is 30 B-channels – effectively 30 separate 64 kbit/s lines on a single connection – and a single, shared 64kbit/s D-channel.

These are all carried on a single bidirectional data connection running at 2.048 Million bits per second (2.048Mbit/s). This is often referred to as a '2meg' or 'E1' connection.

A number of operators in the UK also provide a BT proprietary 'pre-ISDN' digital connection, known as DASS2. This is similar to PRI, but requires different equipment to support it. Many office telephone systems support DASS2.

It should be fairly clear by now that ISDN is simply a high speed alternative to a modem connection. This can be used for Internet access in the same way as a modem, except that call setup is near-instantaneous, and the speed is far greater. To use it your IAP has to support ISDN connections.

Dedicated connections

Many companies find that their Internet usage can be quite high. In this case, the call charges for a modem or ISDN connection can be very high. It is also common to find that even ISDN is not fast enough, especially if many people in the office are using the Internet at the same time.

In these cases, a leased line option (sometimes called a 'private wire') is more appropriate.

A leased line is a dedicated line connecting two locations. This can be used for any purpose, but is most commonly used for private telephone or computer networks between, for instance, two separate buildings belonging to one company. The fixed rental charges for a leased line are often considerably cheaper than the call charges on a heavily-used ISDN or modem connection.

Very simply, instead of a modem link or an ISDN link, the leased line is used to connect directly to the IAP's router. The customer then connects the leased line into their office network, usually using a router or a security system known as a firewall. Suitable routers cost from around £32,000.

Normally, 64kbit/s leased lines are used for Internet access, although for higher speed access 2.048Mbit/s lines are used. It is rare to have access higher than this, as most of the routers in the Internet are currently interconnected at fairly low speeds (typically 2.048Mbit/s or less), forming a bottleneck. Having higher speed connections therefore gives little, or no benefit.

The charges for direct leased line Internet connection are usually very high because not only does the leased-line have to be paid for, but the IAP is dedicating a port on their router to each leased-line customer. AU

NORFILMS

NORFILMS
Media Computing '96

Karen Peach talks to Michael Bond, organiser of a new media computing exhibition

A new computer exhibition is set to take place in July at the GMEX in Manchester. Michael Bond, independent film producer, is busy organising NORFILMS Media Computing '96 and the Indie Film '96 seminar.

While planning the seminar for filmmakers and the media, Michael realised that there was an obvious opening for a computer exhibition to run alongside it, which is when he came up with the idea for NORFILMS Media Computing '96. Here exhibitors will have the opportunity to show off their products and demonstrate the latest technology available for the media and entertainment industries, to people working in the industry while they are attending the seminar but with one strange quirk — it's only for Acorn exhibitors.

Focus on Acorn

A visit to Desktop Projects in Stockport impressed Michael so much that he decided that the main focus of the exhibition should be on Acorn.

This may prove to be an eye-opener to others working in the film industry who are probably unaware of what Acorn has to offer them. Michael himself has become fed-up of the hype surrounding PCs and saw that many of his requirements as a independent film producer could be satisfied by the range of high-quality applications available on the Acorn platform. He felt that these would also be of interest to others in similar professions who would be attending Indie Film '96.

Leading names in the Acorn market have been approached to exhibit and he is simply waiting for definite bookings to set a date and put the wheels in full motion.

Companies will have the chance to demonstrate the capabilities of the Acorn Risc PC for use within the film/video industry which may have been bypassed before. It will provide an ideal opportunity for Acorn developers to show off their products directly to workers in the film/TV industry now and those who hope to in the future.

Areas that Michael expects to be represented at the exhibition include film/video editing, multimedia applications, animation, music composition and soundtrack editing as well as DTP, business support and communications.

Acorn machines will also be used for producing the marketing material for the event plus a workbook to accompany the seminars

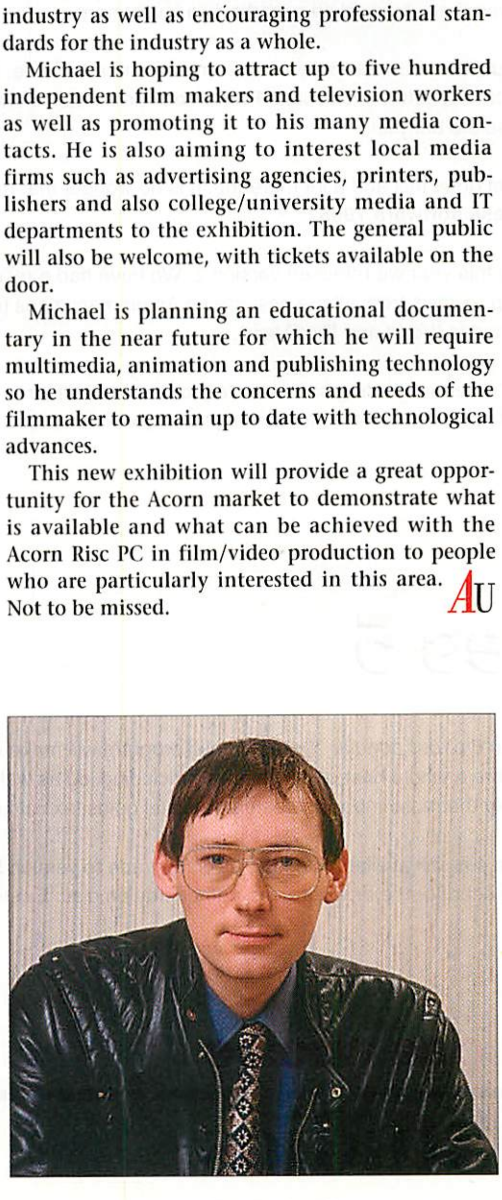
Indie Film '96

There will be two days of intensive lectures in production techniques, including a lecture from Elliott Grove of the European Film Institute. These will be of interest to anyone wanting to develop their skills within the media and entertainment industry as well as encouraging professional standards for the industry as a whole.

Michael is hoping to attract up to five hundred independent film makers and television workers as well as promoting it to his many media contacts. He is also aiming to interest local media firms such as advertising agencies, printers, publishers and also college/university media and IT departments to the exhibition. The general public will also be welcome, with tickets available on the door.

Michael is planning an educational documentary in the near future for which he will require multimedia, animation and publishing technology so he understands the concerns and needs of the filmmaker to remain up to date with technological advances.

This new exhibition will provide a great opportunity for the Acorn market to demonstrate what is available and what can be achieved with the Acorn Risc PC in film/video production to people who are particularly interested in this area. Not to be missed. AU



For further details contact Michael Bond at:
Norfilms, PO Box 174, Stockport, Cheshire, SK5 6LB

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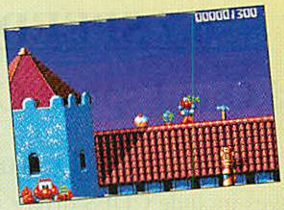
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Mathematical Modelling

Amit Gupta takes a look at RLab, a programming language for numerical analysis

Despite having had a strong presence in the scientific and technical community since the days of the BBC Micro, Acorn computers have recently been lagging behind in the software stakes compared to other platforms such as UNIX and Windows, this has led to a demand for quality application software aimed at this market.

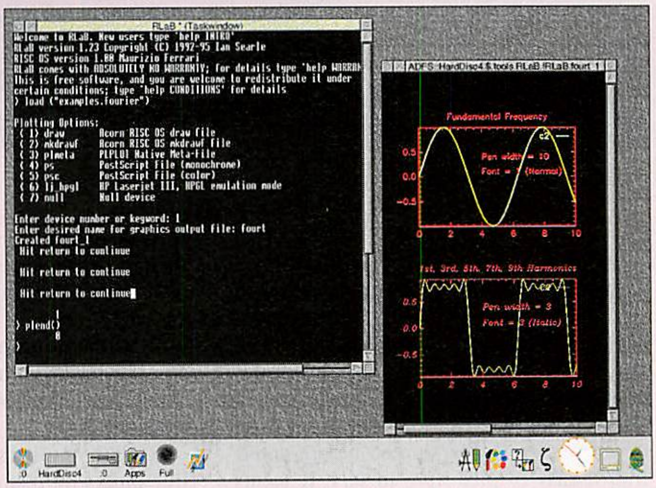
Icon Technology's *TechWriter* is excellent for authoring, and Clares' *Plot* amply fulfils the data presentation aspect, but until now there hasn't been anything to compare with the likes of *Mathematica* or *Matlab* from other platforms. Fortunately *RLaB* has now arrived – originally released into the public domain for UNIX systems, it has been ported to RISC OS and is now available in final release form.

System requirements

As you'd expect from a UNIX package, *RLaB* is a big program and you will need a powerful machine to run it. RISC OS 3 and 4Mb RAM are required (you really need 8Mb for extensive use) and you'll need a hard disc with at least 5Mb free.

RLaB is serious scientific software and as such, benefits from a floating-point accelerator; operations such as matrix inversion are around five times faster with an FPA than without. Currently only the old Archimedes A300/400/500 series and A5000 can have a floating-point accelerator fitted, but Acorn is currently assessing demand for an ARM700/FPA card for the Risc PC and availability is expected soon if there is sufficient interest.

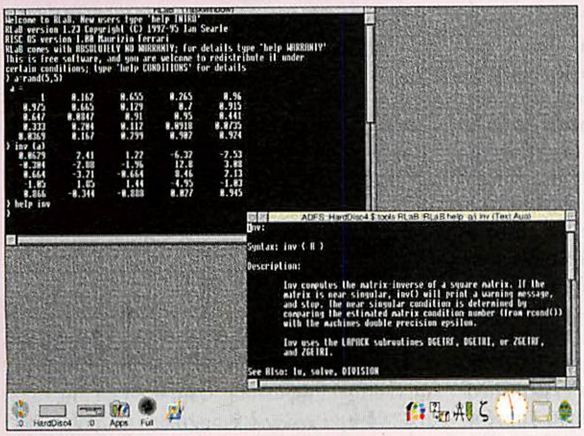
RLaB is free and is obtainable from the Internet via FTP. The package includes the software, a library of functions, on-line help and a 51-page manual in TeX, DVI and Draw format. The documentation is succinct and well-written; in keeping with *RLaB*'s target market, it assumes basic familiarity with matrices, vectors and complex numbers.



RLab graph plotting in two dimensions

What is *RLab* all about?

Perhaps the best way of describing *RLaB* is as a programming language and environment which is geared towards numerical analysis and mathematical modelling. The *RLaB* language is a bit like a simplified cross between C and Fortran, with function syntax, variable types and scoping rules all clearly defined, in addition, it provides a number of other features which make it much better suited for mathematical work than the standard languages.

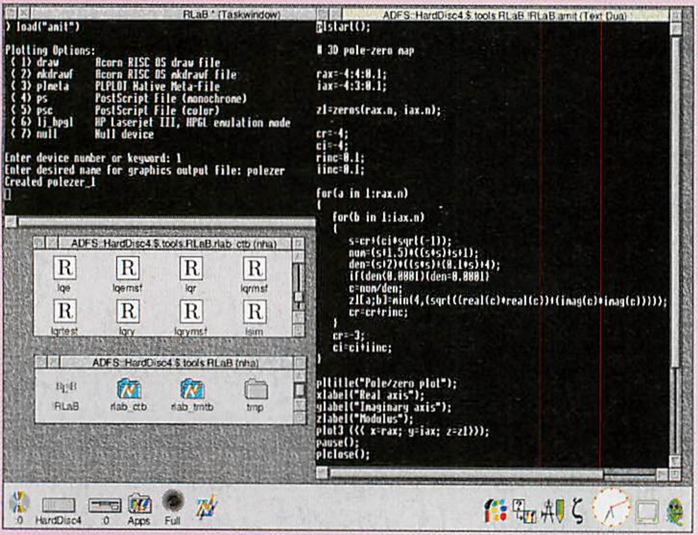


RLab has extensive online help

For example, complex numbers can be handled as easily as real numbers and all operators work on complex as well as real types. Matrix operations such as multiplication, inversion and transposition are directly supported and the built-in function library includes some of the more specialist mathematical tools such as Bessel functions and Fourier transforms. And there's built-in graphics support; both 2D and 3D plots can be produced (either by directly entering data values or by extracting columns from matrices) and viewed in different fonts and styles. *RLaB* can be used in interactive mode, too; you can define variables or type in expressions and have the results displayed directly on-screen, a bit like BBC Basic.

As you may have guessed *RLaB* bears more than a passing resemblance to *Matlab*, the entrenched market leader in the field of data analysis. It is very nearly as powerful – surprising given that the latter is a high-end commercial product with hundreds of man-years of development behind it. *Matlab*'s graphics are slightly more sophisticated and the programming language is more extensive, but apart from that there's very little difference between the two. *RLaB* cannot yet directly load *Matlab* files, but the programming languages are similar enough to make porting fairly trivial.

The RISC OS version of *RLaB* runs in the Desktop which brings many advantages: it multitasks while working, you can drag-and-drop filenames into the session window to make loading easier, graphs can be edited and saved as Draw files, you can also cut and paste text around the session window speeding up the entry of matrices and repeated commands.



You can use RLab as a powerful tool for mathematical work

Installation

Installation is painless (although it takes a while) and I found the system very easy to learn once I got going. Every built-in function has on-line help with examples to try, and the manual contains more examples along with explanations, so you can find out a fair bit just by experimenting. Even if you've never programmed before you'll find it easy to pick up – in fact, it seems like a good way of learning *how* to program.

Typically, an *RLaB* program would consist of a number of functions, each in its own file, with one function serving as the 'core' of the program – it's a lot like writing macros in a spreadsheet such as *Eureka*. Variables can be defined within functions or in interactive mode and can be numbers, strings or lists. The list type is something missing from *Matlab* and is somewhat similar to a structure in C – it's basically a type which can contain other types, so if you need to return a number of parameters from a function (for example, the eigenvectors and eigenvalues of a matrix) you can bundle them into a list and return that. Loops, IF...THEN...ELSE constructs, file input/output and text printing are supported and functions can call each other recursively.

The built-in mathematical operations include a full set of matrix operators, transforms, trigonometric and hyperbolic functions and over 100 other functions – including a few which I didn't know existed. One of the main advantages of using *RLaB* rather than C or Fortran for this type of work is the amount of housekeeping which the program can do for you.

For example, *RLaB* knows about ill-conditioned matrices and will take the appropriate steps when inverting them; it knows about the errors introduced by machine rounding, and it can also spot potential troubles such as underflow or division by zero and warn you gracefully rather than producing incorrect results or letting your code crash.

This makes it possible to spend more time on programming the task in hand rather than on writing code to deal with error trapping or special cases. The pole-zero plot shown on these pages took a few minutes to code in *RLaB* but would have taken much longer in C – even assuming that complex number functions were available.

RLaB's graphics facilities include 2D line plots and histograms (including error bars), scattergrams and 3D plots with user-definable rotation and automatic hidden-line removal on meshes. The graphs appear in Draw and can be edited and saved out for incorporation into a document processor such as *Impression* or *TechWriter*. Many other formats are supported, such as LaTeX figure and Postscript, which would be useful for moving graphs between platforms. I would like to see a little more development in the graphics area; graph types such as contour plots and 3D shaded surfaces are de rigour for high-end visualisation and are very useful for displaying more complicated data sets, but neither is currently supported.

Transferring data

I used *RLaB* to move much of my *Matlab* work over to RISC OS and was very impressed with both the ease with which this was possible and with the quality of the results. Much of my work revolves around engineering design and I was able to construct models and simulations in a fraction of the time and effort of C coding. For large tasks involving hundreds or even thousands of numbers *RLaB* proved to be a much more pragmatic choice than a spreadsheet; *Resultz* nearly expired when faced with such volumes of data but given sufficient memory *RLaB* handles them with ease.

RLaB is currently unique in the RISC OS software market, so there's no established competition to compare it against. There is a very old Archimedes version of *Matlab* available in the public domain, but this is unsuitable for anything except the very simplest tasks and doesn't really compare to *RLaB*.

The real competition comes from the established rivals on other platforms. On an FPA-equipped A5000 *RLaB* runs at a similar speed to the latest *Matlab* for Windows on a 486 PC; *RLaB* has the advantages of better desktop integration, drag-and-drop loading and multitasking on long operations. *Matlab* is still the more powerful product – particularly with its high-end toolbox modules and its ability to create GUI applications from the programming language – but unless your needs are highly specialised you're unlikely to notice much difference. And of course *Matlab* is far from cheap; the cost of a *Matlab* site license alone would get you a copy of *RLaB* with attached Risc PC and monitor, so you have to be pretty sure you'd need the extra features!

Fills a niche

If you are a scientist, engineer, statistician or mathematician and you own a RISC OS computer then you should definitely have a look at RLaB. It is very stable and is an ideal tool for tasks which are too big or complicated for a spreadsheet. It would also be of interest to teachers in these areas who are involved in A-level work or higher. *RLaB* fills a small but important niche in the scientific/engineering market and with luck it may encourage the development of more RISC OS software in this area.

Development of *RLaB* continues apace. RiscBSD, the enormous project to port Berkeley UNIX to the Risc PC and A7000, is currently available in a beta form and it is hoped that *RLaB* will soon appear for it, which will be a very useful option for those dealing with huge data sets or working in a mixed computing environment.

Also *RLaB* version 2 is due for release soon and will provide better memory management, sparse matrix support, improved 3D graphics with point-of-light shading and even support for non-Euclidean geometries. Again a port to RiscBSD is anticipated, which should further improve the Acorn's capabilities in the scientific and mathematical fields. AU

Product details

Product: RLaB (scientific programming environment)
Price : Free
Requirements: 4Mb RAM, RISC OS 3, hard disc
Available: By FTP to micros.hensa.ac.uk, in directory /micros/arch/riscos/e/e022
Further information: On the WWW at http://www.eskimo.com/~ians/rlab.html

Game On!

Sam Greenhill puts the second-generation games troubleshooter through its paces

THE terrible paradox about playing games on the best Acorn computer in the world is that it just isn't fun. In super-boosting the power of the processor and radically changing the way the computer displays things on the screen, Acorn has made the Risc PC about as good for games as sledgehammers are for cracking nuts.

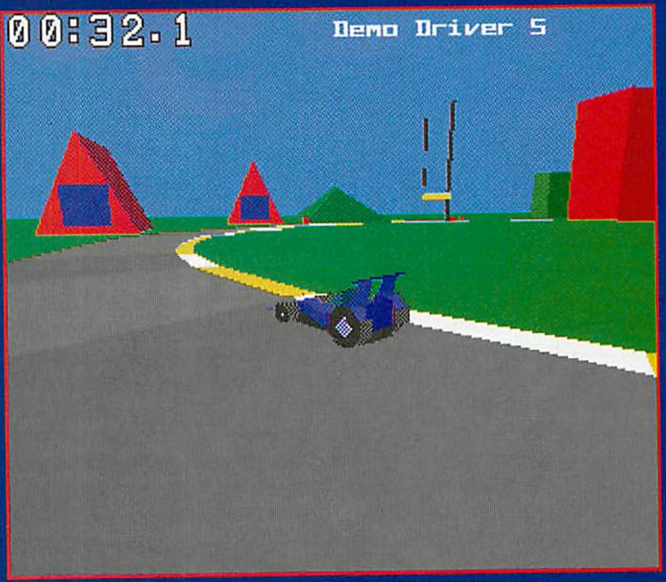
Nebulus from Krisalis may seem nothing more than a crazy rabbit running round and round a tower, but try playing it on a Risc PC and the colours are so distorted that it just looks like a splodge running round and round another splodge. And diving out of the sky in *Chocks Away* and blasting an airfield to bits can only be satisfying if you're in control. On a Risc PC you're not because the whole game runs like a video on fast forward.

Your Tiger Moth plane will screech through the skies at eight or nine times the speed of sound and before you can figure out that Tiger Moths never had ejector seats built into them, you'll have lost control and a big wide flat thing will rush up from under your wings and kill you.

Not only is all the action happening too quickly for you to know what to do, but you are in the somewhat humiliating position that the enemy's got it sussed. For despite being a set of mere First World War pilots, the computer enemy is thinking over its strategy to bring you down several million times a second. You don't really stand a chance.

This is where *Game On 2* comes in – its new release has been scourged of all known bugs. As the secret weapon for Risc PC gamers, it puts a brake on the machine's runaway speed and lets you play at the rate you're used to. It also does much more than that – games like *Lemmings*, *Stunt Racer* and *Sensible Soccer* won't normally work at all on a Risc PC, but they will with the help of *Game On 2*. Other games work fine except that they appear in a letterbox-shaped space in the middle of the screen, due to incompatibility problems between different Acorn video chips – *Game On 2* sorts it out.

Game On 2 installs as an application on your hard disc and in most cases all you need to do is make sure it is running – you can make it run automatically on start up – then load the game. Using various techniques, it manages to trick the computer into running the game without complaint. Alternatively, *Game On 2* can be used to permanently modify games so they will always run on the Risc PC.



An accompanying freeware database on the disc allows you to scan through a list of most games written for the Acorn to see whether they will run on a Risc PC, with or without *Game On 2*. The database is useful but is not exhaustive.

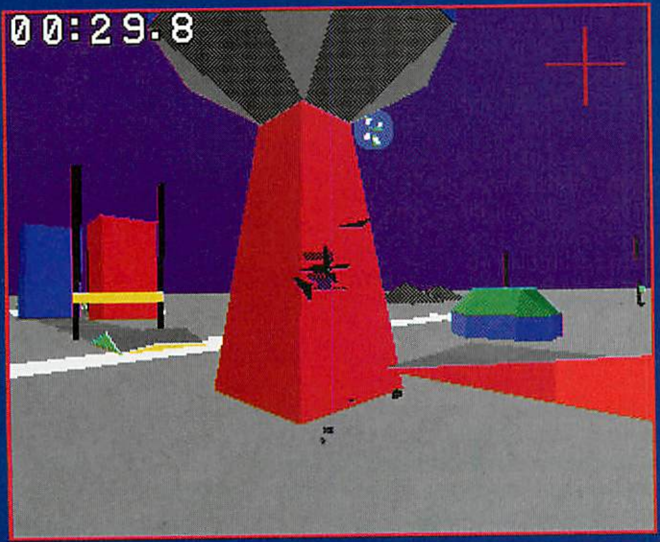
The *Game On 2* application looks daunting to the technically uninitiated, with options to switch on 'VSync Rate' and 'VIDC1 Emulation'. Luckily you do not need to understand these or even use them, for the application knows enough about the game you want to run to be able to set the options itself. Makes you wonder why they are there at all really, but apparently some people like to tinker.

To a large extent, *Game On 2* works fine and is a life saver for all those games facing a dusty shelf on which to spend their remaining days. However, the product is far from polished and some people will wonder if they really want *Game On 2* prodding around with the internal workings of their machine.

Among various problems with the utility, I tried to run *Impression Style* alongside it, only to be mysteriously informed that *Style* was now corrupt and needed re-installing.

Luckily, it wasn't and didn't, but something funny was going on. The utility's front end is also a little sloppy, with text messages running longer than the boxes they appear in.

Despite these complaints, there's little point in biting the hand that feeds, since *Game On 2* is the only way to make games work on a Risc PC. For more information, you can contact The ARM Club on 0171-624 9918.



Hiding the Pogs

Graham Nelson muses on how adventure games bury their treasure

A PACK of four cards, glossy little cartooned counters, falls on to the breakfast table. By examining them I find that they are issued by the World Pog Federation and that they are 'not suitable for children under 36 months'. I am comfortably over 36 months and therefore I am piqued, for Pogs baffle me.

Are they a form of money? Do they combine to make something? If I pin one to my lapel, will I be able to infiltrate the World Pog Federation headquarters?

Fortunately my cornflakes matter a good deal more to me than divining the purpose of Pogs, or hoarding the '24 to collect'. If 'Pog' joins the stock of words I have never quite had explained to me, like 'futon' or 'sushi', I shall not lie awake at nights. But the player of an adventure game has different priorities.

She certainly wouldn't eat the cornflakes, which are bound to be useful later. The set of Pogs falls on to the table like a dropped gauntlet. If there are going to be many Pogs to collect, it must be a major element of the game. The solver itches to work this out, like a phrase in *1 Across* which runs the whole top line of a crossword and sets the theme for the rest.

Collection games

Most adventures are collection games at heart. There are bound to be many different puzzles or tasks to undertake. If they all have to be completed in the correct order, the game will be a 'narrow' one, and usually either dull or very difficult. In a 'wide' game, many problems confront the player at once, some interlocking but many separate from each other. A crossword is wide, a shoot-'em-up game narrow.

In a wide game, each important puzzle needs its own prize, a 'treasure' for the player to collect. When all the treasures are collected, the game is either won immediately or moves on to an end-game.

In the original *Colossal Cave* (1972-77), the rewards are literally treasure. Indeed, the very first version was written by Will Crowther for his children to play; they had grown up with the idea of caving, since his ex-wife Patricia was one of the most famous cave-explorers in America.

In Crowther's game the player delves into the *Cave*, plundering it for valuables which must be stored safely back in the old brick building. In that first children's version there were only five or so treasures, mostly left down in the depths of the cave to reward careful explorers. In the final version, as added to by Don Woods, the treasures – silver bars, a platinum pyramid and an emerald the size of a plover's egg, among others – are much better protected.

After the first few 'cave games', the thrill of finding this loot begins to wear off. There is nothing very scarce or precious about the words 'silver' and 'platinum', after all, and the player only really finds the words game after game. Merely earning 10 points seems a poor reward for solving what may have been a very tricky puzzle.

For some years the result was rampant inflation, with treasures becoming more and more fabulously described, scoring more and more highly. The result can be like modern pinball machines, handing out 15 million points whenever the ball-bearing hits a bumper, usually by accident.

The possibilities for a pinball table are pretty limited, but modern video games provide much more satisfying rewards, by making the gameplay radically change and develop. The player gradually gains entry into new and fresh-looking regions, or acquires new abilities: extra firepower, or wide shooting angles. The same discovery was made by Adventure game designers: players would much rather have a magic wand than a jewelled brooch.

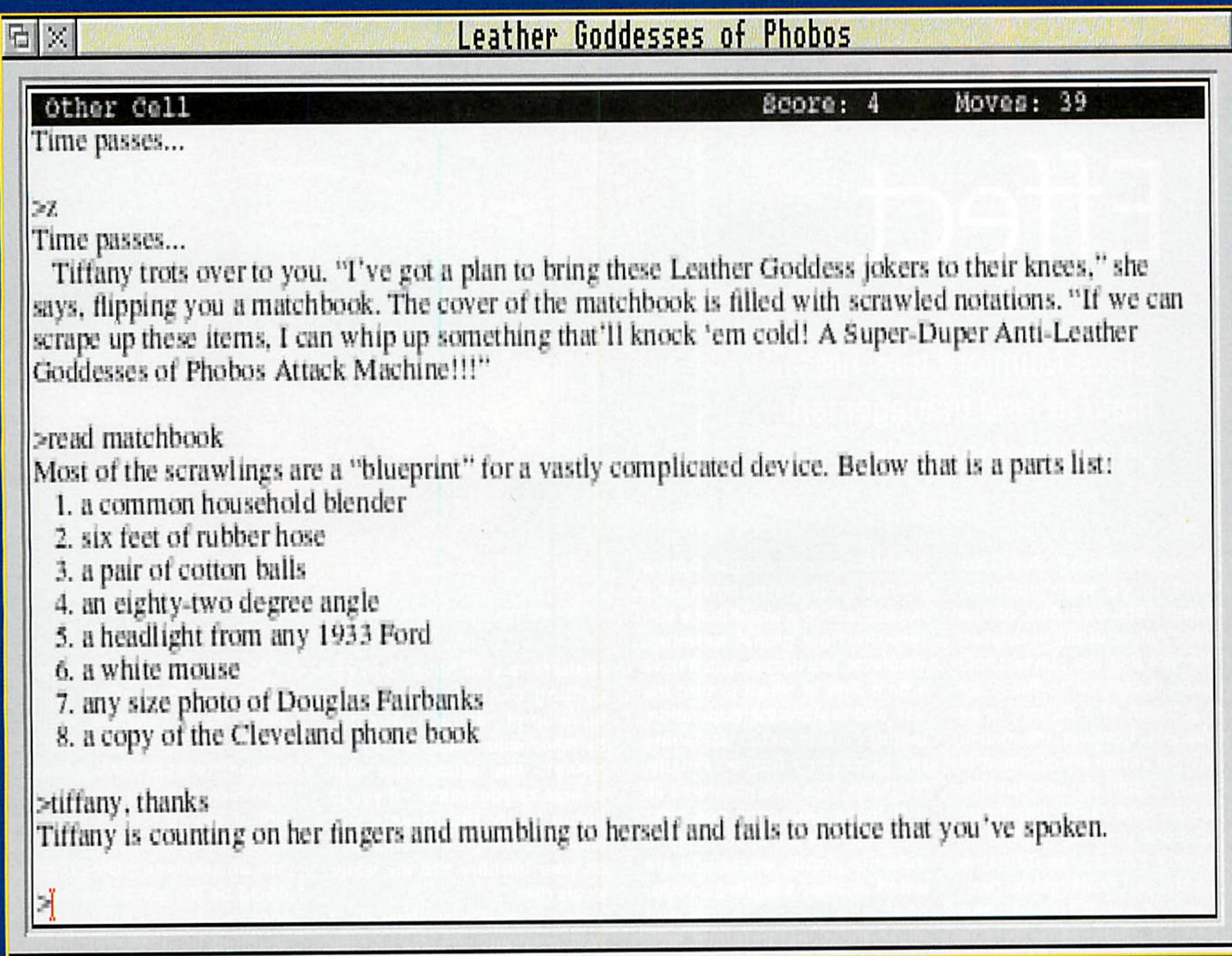
Treasure today

If treasure objects are not going to be just tokens exchanged for points, what else can they be? I think there are three popular answers to this in modern games.

KEYS – Each treasure-object gives the player a way into a new region of the game, where fresh puzzles await. Often, the treasures link all these regions or provide magical means of transportation between them. For example, Level 9's game *Dungeon* (c1983) had a set of magical collars which could teleport the player between certain places. These were colour-coded, with some colours more powerful than others, annoyingly enough imitating the colour code for the painted bands on the side of resistors. Sometimes the whole map of the game is held together this way. The magnificent *Spellbreaker* (P. David Lebling, 1986) has a set of intriguing white featureless cubes, impossible to tell apart unless you write labels on them. These can transport the player to new places, and they turn out to be linked in the design of a tessaract, a four-dimensional cube. Moreover, each represents an element, like 'Air', 'Water', 'Time' or 'Magic'. The cubes are not just a puzzle but are the keystone of the entire design.

SPELLS – The treasure-objects are scrolls bearing new spells for the player to cast upon things, or perhaps alien-engineered machines. Players love these because they offer so many new possibilities. An *ignite* spell ought to do something interesting when cast on almost anything in the game, not just on obvious firewood. Game designers are wary of spells for the same reason.

For example, my own game *Curses* (1993) has a set of Rods as one of the collectable groups of treasure items. A typical case is the Rod of Husbandry, which has the power to herd animals. Even though it isn't immediately clear how to use these Rods, players catch on quickly that it's a good idea to collect them. Although each Rod has only a few different intended uses, pages and pages of the program are occupied with finding good replies to wrong or frivolous guesses. For example, a bomb must be defused. Will casting the Rod of Ice upon it make it safe? No, as it turns out. Some



How to handle the unexpected input

players even cast the Rod of Fire upon it, and if the game is going to remain plausible it has to make sure this has fatal consequences.

INGREDIENTS – To complete some super-puzzle, the player has to find a list of unlikely or difficult-to-find objects. For instance, in the very tongue in cheek Leather Goddesses of Phobos (Steve Meretzky, 1986) the player's work is cut out for her. I particularly like the generous concession that any sized photo of Douglas Fairbanks will do.

Hiding places

In modern games, treasures are guarded, not simply left around to reward the diligent explorer. This guardian may not literally be on guard, like a doorkeeper or a dragon perched on its fortune, it may be someone who happens to have the treasure without even knowing it. For example, if a hermit is using the High Anvil of Destiny as a doorstop, then the player will have to find a new way of keeping the door open, and that will be the puzzle that safeguards the treasure.

Alternatively, the guard may be a locked compartment, such as a display case in the Tower of London. Keys come in many forms and often the key is a combination of some kind, worked out by deciphering some inscription.

Finally, an old favourite is to leave the treasure apparently quite unguarded – and yet in the worst place imaginable, teetering on the edge of a cliff, perhaps, or supporting the ceiling. A tantalising glance is available but only with great care can the player safely extract the treasure from the situation, like the cat-burglar in a 1970s caper movie.

Setting the rewards, and the goals, is one of the earliest tasks for any game-writer. I hope I've argued that it's much more than simply working out a scoring system, because the 'treasures' are a major part of the game.

Interactive fiction competition

It's time to remind readers of the *Acorn User Interactive Fiction Competition*, announced last month. Write a short adventure game on any theme, without infringing anybody's copyright, and send it to *Acorn User* – with a file containing the solution – by July 1. We hope to be publishing the best entries.

Coming up next month: a review of Topologika's *Acheton*, an Archimedes version of an old British classic.

For your information

'Pog' is a trade mark of the World Pog Federation. *Spellbreaker* is still available in various *Infocom* compendiums on sale from Activision, though an adapter called an 'Infocom interpreter', such as Kevin Bracey's *Zip2000*, is needed to run it on RISC OS.

Global Effect

Steve Mumford tries his hand at land management on a planetary scale



Both versions of *Sim City* proved to be very popular; whether this was due to the detailed nature of the simulation or the fact that the player could unleash disasters on the town with a touch of a button, is as yet unclear. However, the idea of creating a virtual environment in this way caught on, and streams of bigger and more ambitious simulations popped up. And so to *Global Effect* – as its name suggests, you won't just be dealing with a small town in the middle of nowhere here. The game is observed from the planet's perspective, and all aspects from global warming to depletion of the ozone layer are calculated. It's up to you to create a society that can live in harmony with the planet.

There are various ways to play *Global Effect*, each requiring its own set of skills. You can play on your own with an environment tailored to your specifications – an ideal way to get to grips with the gameplay. There are also eight predefined scenarios to give you a greater challenge, including a world wracked with seismic activity. The idea behind these situations is to make use of the strong points of each world, without tipping the balance of the ecosystem. It's possible to play these scenarios against a computer player, and this might be a good method of picking up the odd hint.

If that isn't enough, you can opt to 'save a world' by taking on one of four ailing worlds and attempting to nurse it back to health. You can choose from a planet in the aftermath of a nuclear war to a world that's suffered terrible global warming. Whatever you decide, you'll have a time limit in which to turn the tide and restore the population, taking care to avoid damaging the planet any further. Finally, for those who have mastered all that these situations can offer them, there is the opportunity to 'rule the world', where you are pitted against a ruthless opponent who will try to use and abuse the planet to further their own nefarious schemes.

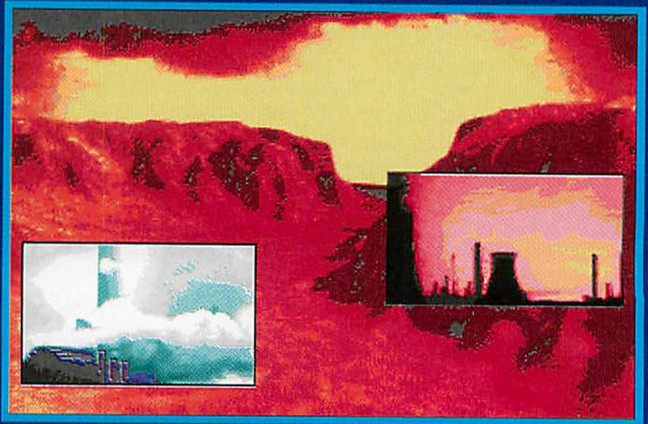
The playfield consists of a large viewing area looking on to a magnified view of your present location. On the right is the tool bar that houses all of the icons you'll need for construction, as well as a keypad for scrolling round the map and a button that provides you access to a huge bank of information – surface temperatures, ozone layer measurements and pollution data amongst others are all displayed as full-screen colour coded maps. Textual information is also available to help you determine whether your services are running at full capacity.

Global Effect is very much a nuts-and-bolts simulation; you won't be building any marinas or subways here. Your tools revolve around production of food as well as power – coal, oil and nuclear fuels can all be utilised – and you can manage the land by hemming your cities in with trees, green belts or natural boundaries. Storage tanks can help you conserve what resources you have, and recycling centres reduce the build-up of pollution. Affected by man-made influences on the planet, the landscape will change as you watch – if you're doing badly the forests will shrink as the deserts encroach on your territory and the water levels rise.

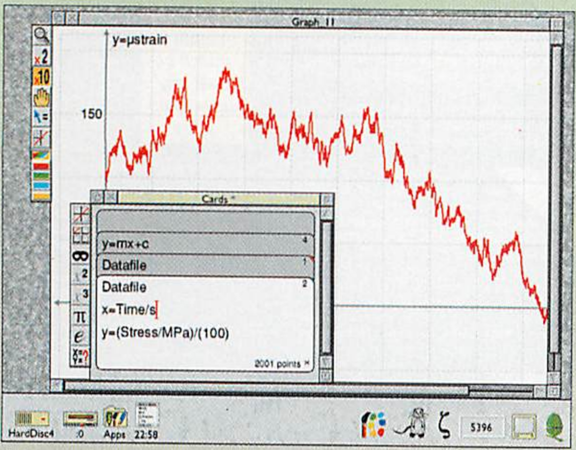
How does *Global Effect* play? Well, it's pretty complex and the manual doesn't have a tutorial section so you'll be on your own from the start. It's not obvious how the structures can interact, and a fair amount of trial and error is needed before you can really get into the game. The controls are easy to use, although flicking through the length of the tool bar every time you want to build a structure can prove tiresome.

Marred by a couple of rough edges including some spelling that I might describe as *avant garde*, it's not a game that will appeal to everyone's tastes. However, perseverance pays off and if you're interested in the complex systems that control our environment, *Global Effect* could be the game you've been looking for. Eclipse can be reached by phone on (01243) 531194 or by e-mail at *eclipse @argonet.co.uk*.

One final note – in this particular version of *Global Effect*, the battle system has not been enabled, limiting the game to the more peaceful elements of world control. Eclipse hope to release the battle system as a future upgrade – contact them for more details on the price and availability of this module.



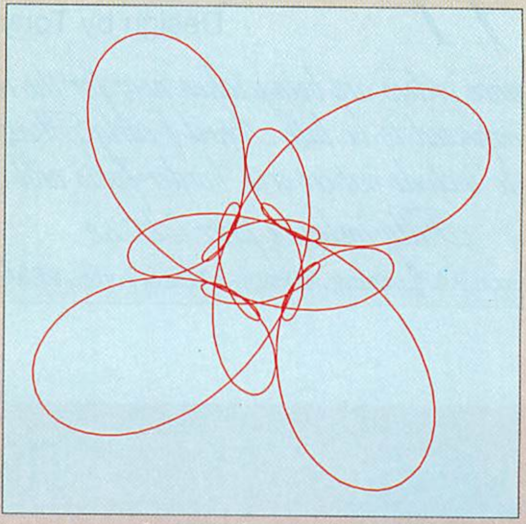
You need power – but how to make it?



Coypu can handle large data files, so is perfect for plotting the results of long-term data logging

Coypu

Dave Matthewman investigates a rodent that's larger than a mouse



Coypu can do a good Spirograph impression

I like a program with a sense of humour. *Coypu* has an advantage from the start, being a fatter, more sophisticated version of SCME's *Mouse Plotter* – a coypu is a large rodent which was introduced to the UK from South America and is now beating up our water vole population with abandon, but it doesn't do to stretch metaphors too far.

Coypu the program is essentially a scatter and line graph plotter. It doesn't do bar or pie charts, or fancy 3D effects – if these are important to you, then Clares' *Plot* or a spreadsheet like *Eureka* or *Schema* would be a better buy – but this isn't really a criticism. The definitive Archimedes plotting package has yet to arrive, but *Coypu* does very well at plotting two particular types of graphs: equation plots and data plots.

Equation plots

Plotting graphs based on equations is not a common exercise outside the classroom, although given the popularity of the spirograph programs in *INFO it seems that many *Acorn User* readers are closet recreational mathematicians. Whatever your reason to plot these, *Coypu* does it well, recognising a number of different equation types. Not only will it plot simple equations such as:

$y=3x^2+10x+3$

which incidentally you can enter just like that – *Coypu* understands implicit multiplication – but it also parametric equations where both x and y depend on a third variable:

x=2sin(t)
y=cos(2t)

It will also do polar plots, where the radius is dependent on the angle.

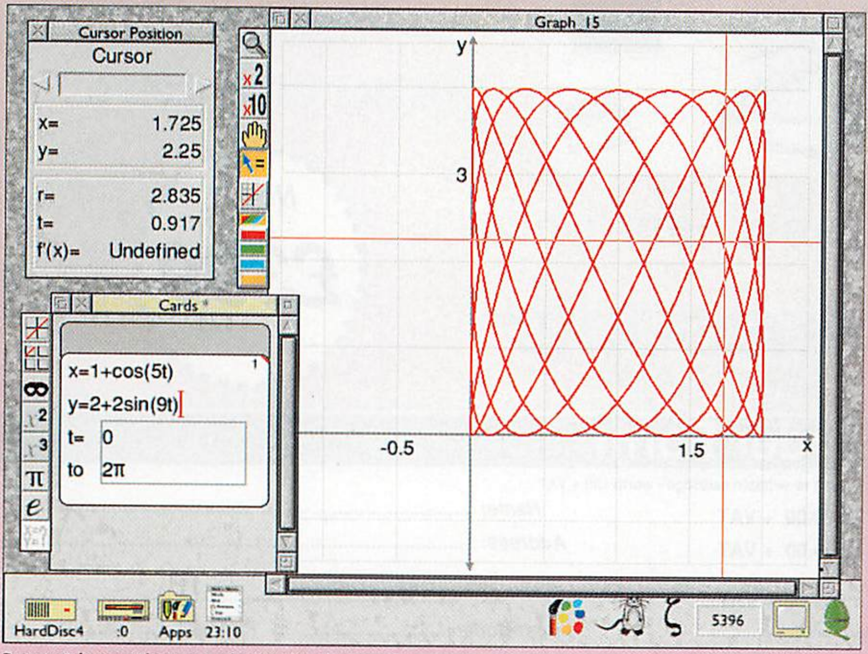
A most useful feature of *Coypu* is that you can specify constants in your equation. For instance, you can tell it to plot:

y=mx+c

(the classic straight line) and then specify particular values of **m** and **c** for it to plot. Even better than this, you can specify one value to vary as you drag the plot around the graph, so you can watch the value of m increase as you steepen the graph by dragging with the mouse. On faster machines such as the Risc PC this can be performed in real time for simple graphs.

For simple **x=f(y)** functions, *Coypu* will also plot the first and second derivatives of the functions, which it does by a numerical rather than an analytical method. It won't therefore actually give you the equation for the derivative, but it will make a good attempt at plotting it even for fairly complicated functions.

You can move a cursor around the graph to read values off it; this not only snaps to the plot but also to grid lines making (for instance) intercepts with the axes very easy to find.



Parametric equations can give interesting results.

Data plotting

Coypu's other main mode of operation is in plotting data. You can enter up to 16 points directly, but for most serious use

you'll want to import them from some other application, perhaps even a data logger. *Coypu* accepts both CSV and SID files, although a few other older formats can be converted into SID files by the utility supplied.

I imported a massive 10,000 point, four-channel recording into *Coypu* and it plotted it successfully, a task which has been known to defeat more expensive alternatives. It wasn't quick, but it did produce the plots, and it did give a rather cute 'scampering mouse' hourglass while it was thinking.

Post-processing of data is rather limited; you can find and plot linear regression lines (which will also give you the mean and standard deviation for both sets of data), but not much else. This limitation is an expected one given that this is basically a plotting package, but if you *do* intend to do much analysis of the data then a spreadsheet or (even better) a statistics package like *1st* will also be needed.

Conclusion

I would have liked a little more control over the size and appearance of the graphs produced by *Coypu* – an option to re-size the window and then scale the graph to fit would have been welcome. *Coypu's* toolbar is a little odd too, perhaps as a result of its *Mouse Plotter* ancestor; there are three ways to zoom in to the graph (two of which work the opposite way from the other) and no Save or Print buttons.

None of these minor quibbles should put you off an otherwise very well-designed application. Schools will of course love it, but anyone else with an interest in graphs and £50 to spare should also consider it.

On my left I have the very capable *Plot* from Clares which has a wider range of graph styles but is tailored more towards presentation of data. On the right is the much cheaper *Equate* which was reviewed in July 1995's *Acorn User* and is worth considering as a cheaper function plotter with no data presentation facilities. What might just swing the vote for *Coypu* is the eight worksheet-type examples that come with it, the best introduction to the program that you could hope for and educational to boot. AU

● *Differential Calculus™ is a registered trade mark of Isaac Newton Ltd, Cambridge, England. The value of e appears courtesy of Euler Corp. – The Coypu manual.*

Product details

Supplier: Shell Centre for Mathematical Education
Tel: 0115-951 4415
Fax: 0115-979 1813
E-mail: Steve.Jeffery@nottingham.ac.uk
WWW: http://acorn.educ.nottingham.ac.uk/ShellCent/
Price: ??

Pros: Easy to use • Handles large data files • Good manual and examples
Cons: Limited number of graph types • Control over graph size a little awkward

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Product details

Supplier: Atomwide Ltd
Address: 7 The Metro Centre, Bridge Road, Orpington, Kent, BR5 2BE
Tel: (01689) 814500
Fax: (01689) 814501
Email: sales@atomwide.co.uk
Price: £39 + p&p + VAT. Also available as a bundle with a membrane keyboard at £49 + VAT or tactile version for £59 + VAT.

Keyboard encoder

Anyone who uses both Acorns and PCs will be pleased with the Atomwide keyboard encoder designed for the pre-Risc PC Acorn computer. It allows a PC keyboard to be fitted to an Acorn machine so that the user doesn't have to use different key layouts on each machine. It also provides a cheaper way of replacing a worn Archimedes keyboard.

The keyboard encoder is a small white box – similar in size to a matchbox. It uses the latest PIC microprocessor technology and has a short lead which connects up to the keyboard socket on the computer. The encoder itself has two sockets, one for the new keyboard (it will accept almost any IBM PS/2 or Cherry-compatible keyboard) and the other for a standard Acorn mouse to fit into.

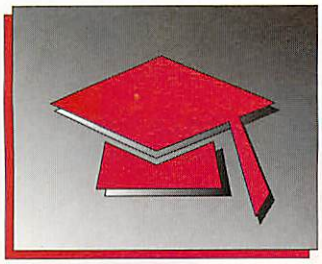
Fitting the encoder and changing the keyboard can be done very quickly, no configuration is required – it really couldn't be simpler

The reset button, usually located on the Acorn keyboard, is situated on the encoder box. It is a small, recessed button which has to be pressed with a pointed object to be reset – so there's no chance of accidentally resetting your machine.

The encoder can be attached to your computer with two adhesive strips supplied and because of its size it is unobtrusive.

The keyboard encoder is compatible with the Acorn A300, A400, A400/1, A540, A4000 and A5000 series machines.

Karen Peach AU



Acorn Advantage

Fina and Midland Bank boost the Acorn Advantage Programme for 1996

Midland Bank and Fina Plc have expanded their involvement in Acorn Education's ground-breaking Advantage loyalty scheme which offers free curriculum resources to schools in exchange for Advantage points. Other confirmed partners for 1996 include Ladybird Books, Parker and Paper Mate pens and Helix.

Since Acorn Advantage was launched in September 1994, over 13,000 schools have registered for membership and almost 9,000,000 points have been awarded. Midland Bank will be offering Advantage points as an alternative to the annual cash donation made to secondary schools that operate Midbanks – pupil banking systems run in conjunction with local branches. Midland Bank will also make a donation of Advantage points for newly installed Midbanks.

In the promotion with Fina Plc, 'Fina for You' vouchers, collected when purchasing petrol at one of over 500 Fina petrol stations, can be exchanged for Advantage points vouchers which can then be donated to schools. The ICD Marketing Services Schools Survey programme is to be expanded nationwide in 1996. The scheme enables schools to collect Advantage points in return for completed research questionnaires from parents, friends and relatives.

In the last year, over 1,000 schools have taken part in the survey programme, earning more than 750,000 Advantage points, and schools of all sizes have already joined the scheme for 1996. Acorn Advantage points can be redeemed against curriculum resources from the extended Advantage Portfolio which includes a wide selection of curriculum resources, from violins to microscopes and computer hardware to video cameras.

Advantage points can also be earned by schools purchasing Acorn computers, and, when individuals buy an Acorn computer for the home or business, points can be donated to a school of their choice. Additionally, anyone using an Acorn VISA card can generate Advantage points for their nominated school.

To apply for an Acorn VISA card call the Freephone number 0800 776262. Schools requiring more information on Acorn Advantage should call (01223) 254527.

My view

Now please, Acorn, don't take this the wrong way. What Acorn is doing with companies like Fina and Midland is great. Parents buying petrol and students running their own bank can all earn points which can be 'spent' on a whole range of equipment for schools – not just Acorn equipment either.

But why? Why do British schools have to rely so heavily on what are effectively sales promotions to get equipment for our youngsters. Almost weekly we hear of yet more complaints about UK education. 'Our children are failing', 'they are behind their European peers' and 'the standard of education is dropping' are all phrases we've heard more than once over the last few months. Why is this?

My 6-year-old twins attend an excellent local primary school. Their Information Technology capability, however, has come not from school but largely from me. They are very fortunate that their father does what he does, and as a result are surrounded by high technology. In fact, there is more IT hardware and software at home than at their school.

But what about the children whose father isn't an Information Technology coordinator and freelance writer? Their schools simply do not have the funds to provide the resources required for teaching IT into the next century. And it's not just IT that is under-funded.

The school recently had to update its rather old reading scheme and to do that had to supplement its capitation with money provided by a car boot sale, a summer fair and coffee mornings. This, remember, was to buy materials to teach children to read! And this school is relatively fortunate – with one computer in every class, they are better off than many.

Standards are dropping? I don't think so. Staff are generally doing the best with what they've got and still setting the highest possible standards. But what they've got is often not enough. For this reason, many have to rely too heavily on sales gimmicks and handouts to get the basic tools to do the job.

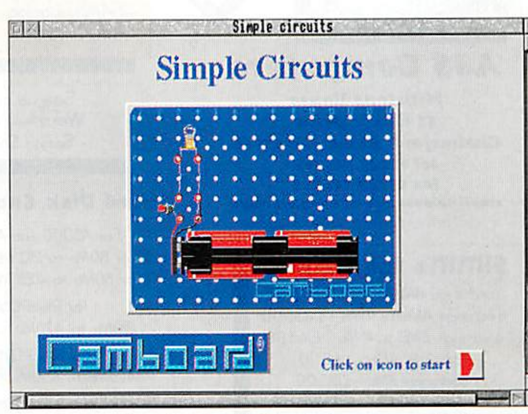
Contacting me

You can contact the Education page by writing to me, Geoff Preston at *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP or by e-mail to: gpreston@arcade.demon.co.uk

Camboard licence

THERE is now a site licence option for *Simple Circuits*, (see *Acorn User* November 1995, page 90) the combined software and hardware product designed to teach children the principals of electricity. The site licence costs £49.95 which includes one hardware pack. Single user packs are £29.95 with a £20 single user to site licence upgrade.

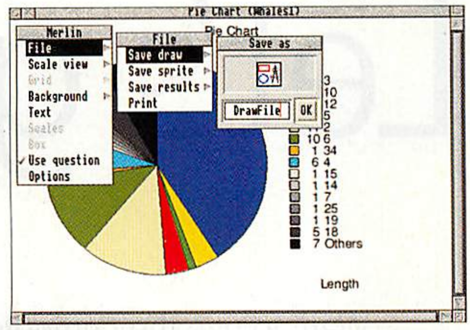
Camboard can be contacted on (01223) 264512.



Camboard's *Simple Circuits* is now even better value

Stop Press
Just as we were going to print, a new version of Merlin was released which addresses most of the criticisms I have raised.

Graph output can be saved as a drawfile, but limited to fairly simple graph types



A wizard data handling program

Geoff Preston looks at The Advisory Unit's database, Merlin

Data handling is one of the National Curriculum Information Technology strands and to be able to make any inroads into the attainment targets for that strand, you'll need a dedicated data handling program. In my experience, data handling programs seem to fall into one of two categories – they are aimed at either the very young or are professional type products; only a couple of programs actually fit in between the two extremes. *Merlin* is one such program which is specifically aimed at Key Stages 3 and 4, although it could be used at KS 2.

The pack comes in a clear folder containing two A4 books and two discs. The first book is a manual which takes you from installation through to advanced use in a clear and concise way. The second book is entitled Coursework Plans for Data Handling and includes some lesson plans with tasks intended to cover the attainment targets. The two discs contain the programs and some example files.

The software

Merlin is not one program but two, and what you want to do will determine which you'll need to use. The main program will not allow you to alter the datafile in any way. To do that or create a new file, you'll need to load *MerlinEd* – the editor. The main program can search, sort and display only.

This approach has the advantage that publicly accessible datafiles (such as those on a network) cannot be altered without the editor. On the other hand, it does mean that more advanced students might find themselves needing to swap continuously between the two programs. For this reason, I'd like to see a third program on the disc: one that does it all.



Merlin (CountryPic)

Country	Capital	Area	Populat	Currency	Lang	Contin
Australia	Canberra	7682300	14000000	Dollar	English	Australasia
Austria	Vienna	83898	7500000	Schilling	German	Europe
Belgium	Brussels	30445	9900000	Franc	French	Europe
Canada	Ottawa	9976185	24100000	Dollar	English	North America
Chile	Santiago	738494	11200000	Peso	Spanish	South America
China	Beijing	9595961	1000000000	Renminbi	Chinese	Australasia
Denmark	Copenhagen	42932	5100000	Krone	Danish	Europe
Finland	Helsinki	48125	77060	Markka	Finish	Scandinavia
France	Paris	550634	54257300	Franc	French	Europe
Greece	Athens	132561	9600000	Drachma	Greek	Europe
Holland	Amsterdam	36175	14200000	Guilder	Dutch	Europe
Hungary	Budapest	93012	10700000	Forint	Hungarian	Europe
Italy	Rome	301049	57200000	Lire	Italian	Europe
Japan	Tokyo	370370	117000000	Yen	Japanese	Australasia
New Zealand	Wellington	268676	3230000	Dollar	English	Australasia
Norway	Oslo	322600	4100000	Krone	Norwegian	Scandinavia
Poland	Warsaw	311700	36000000	Zloty	Polish	Europe
Spain	Madrid	504747	37000000	Pesata	Spanish	Europe
Sweden	Stockholm	449792	8300000	Krona	Swedish	Scandinavia
Switzerland	Berne	41310	6365960	Franc	French	Europe
Turkey	Ankara	780579	46200000	Lira	Turkish	Europe
U S A	Washington	9363169	230049000	Dollar	English	North America
UK	London	244022	55865000	Pound	English	Europe

Data can be viewed in columns which is very reminiscent of QuestD

Jargon Box

For those not familiar with data handling terms, think of a card index system used to locate books in the library.

Datafile: Information on a common theme. The library's card index.

Record: Information about one thing. Each book in the library will have a card with information about that one book. All cards (or records) contain the same type of information stored in fields.

Field: A category of information eg. name of book, publisher, author, ISBN etc.

String: A word or phrase made from letters and/or numbers.

Integer: A whole number containing no fractions.

Real number: A number containing a fraction eg 7.1, 3.9 or 7.0.

Handling the data

Some of the jargon surrounding data handling is slightly unfriendly, but 'searches' and 'subsets' are in widespread use within data handling and so I'm not sure that replacing them with alternative words is necessarily a good idea. But that's what they've done. If you want to search, you select 'Question' from the menu. Searches can be made on data in any field, or in any two fields. Sorting can also be carried out on two fields and any of the subsets can be saved.

Data types

Merlin will handle the usual text, integer and real number (referred to as a decimal number) only. Time and formulae are not catered for although graphics can be included, but, rather annoyingly, I could find no way of retrieving a graphic once it had been placed into a record.

Entering data

For lovers of *QuestD*, *Merlin* will seem vaguely familiar. It has the same eight letter field name restriction and displays datafiles in a very similar fashion. Creating a new datafile begins by 'Editing the Header' (which in usual data processing parlance means creating the fields and declaring the data types). Each field can have an explanation attached, and up to 40 fields can be used.

Entering data is straight forward and CD type controls are used to move between records. I was slightly concerned that I was allowed to enter 5.5 into a field that had been declared type integer, and even more concerned when I was allowed to display and even sort it. I was then quite amazed that I was then allowed the sort an integer field that contained a string. That, I feel, is not good. AU

Product details

Product: Merlin
Supplier: The Advisory Unit: Computers in Education
Tel: (01707) 266714
Fax: (01707) 273684
Price: £75 for a single user copy, £200 for a network/site licence
Pros: Excellent documentation • No frills • Well priced
Cons: Bland layout • No error checking for incorrect data • Over simplified in places

Let's go with Lego

Want to use the computer to control your Lego models? Colin Rouse finds out how

> **Product details**
>
> Product: First Computer Control
>
> Supplier: Lego Dacta — Lego UK Ltd
>
> To purchase — see catalogues by Leading Educational Suppliers or telephone (01978) 296293.
>
> Pros: Easy to assemble • Very user friendly • Can be used across the primary age range and beyond
>
> Cons: Expensive initial outlay

Do you want to introduce your pupils to control technology in the classroom? Have you access to Lego? An easy way to introduce the concept of computer control is through the Lego Dacta First Computer Control system.

It's a complete system for using control technology in the classroom at primary level. It consists of a controlled machines set of Lego components and four model building guides, a computer interfaced control box and power supply with the necessary cable and directions for use, six pupil activity cards and overlay templates, a first control comprehensive teacher's guide, the software necessary to run the system and a temperature sensor.

To run the First Control system the minimum requirements of the Acorn system are 2Mb of RAM and a serial port chip. With the Lego hardware and software installed, pupils will be able to create, modify and save projects they are working on. To allow pupils to get started, Lego have included a sample program for them to work through, called *Letsgo*.

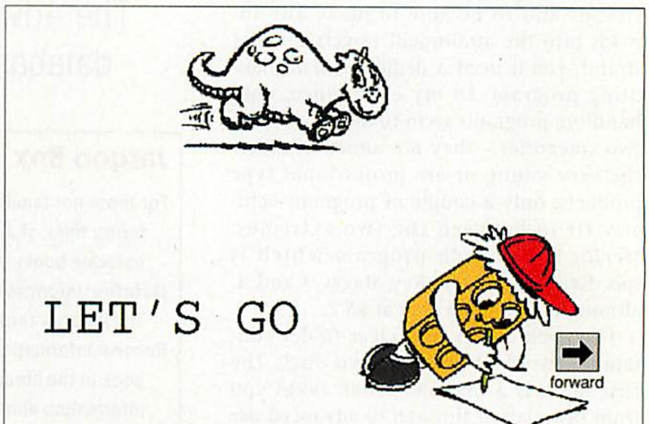
This project consists of 12 pages of activities which are linked together, with a pupil workcard to accompany each activity.

Card 1a deals with the computer connections necessary to use the 'Letsgo' system, an activity I would suggest the teacher would do, in a primary school. Card 1b relates to building the model Dactasaur. The building pack and instruction card comes with the First Computer Control system.

It also asks children to predict certain things such as how long it would take to make the model. It is quite hard to make and I would suggest that, at the lower end of Key Stage 2, help would be needed to construct it as it takes about an hour to assemble the model. It would also be a good exercise for the pupils to check they have all the right pieces before they start.

Cards 2a and 2b deal with setting up the software and running it which shouldn't be too difficult for pupils used to doing this on Acorn machines. They also deal with using the mouse and loading and saving work.

Card 3a allows children to test whether they have connected the Dactasaur correctly and introduces the idea of using buttons to control move-



Letsgo with the Dactasaur

ment. Card 3b reinforces the concepts of loading and saving work.

An introduction to some of the logo commands is covered by Card 4a and the idea of inputs and outputs is introduced. Card 4b covers the concept of a planned sequence of instructions with associated vocabulary.

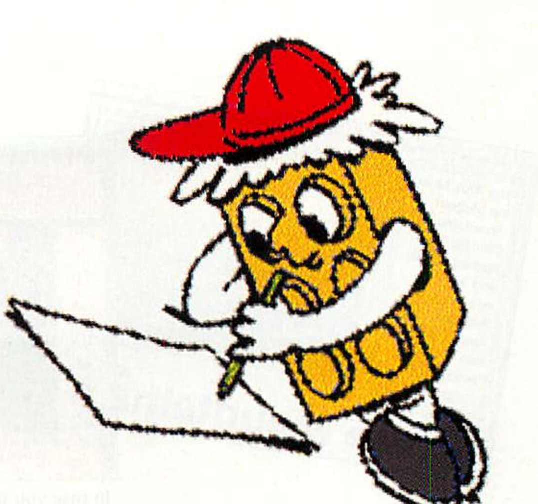
Card 5a allows pupils to develop an understanding of inputs, using the temperature sensor contained within the package and asks them to undertake a structured activity to demonstrate this concept. A standard scientific experiment is introduced on card 5b which encourages pupils to record their results in a table, with time against material for each item tested. This allows pupils the opportunity to plot graphs to show their results, using the software.

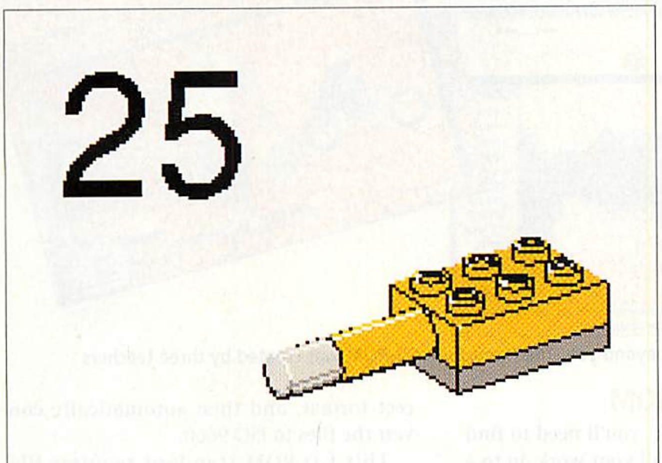
The final two workcards allow pupils to develop the concept of feedback, using the idea of an input device controlling an output device and presents an opportunity for pupils to reinforce previously learned skills using the *Letsgo* project. There are also overlays for the interface which allow children to make physical connections between the dactasaur and the interface thus aiding understanding.

The Letsgo Teacher's Guide

A very comprehensive teacher's guide is included in the package which is essential when planning to use the First Computer control package. It is well written and easy to use dealing with the pack's contents, the technical information necessary and an introduction to the system.

It provides an overview of the workcards, giving clear instructions on how to use each card with the pupils, offering hints and tips on the activities the pupils will undertake, as





Sensing a change — the temperature senso

well as advice and guidance on organisation and learning points. Health and safety issues are also addressed where applicable.

The Teacher's Guide also gives help and advice on developing individual projects using the system. Teachers can access a set up page which allows them the opportunity to decide which inputs and outputs can be used. This is especially useful when working with younger children or those with special needs – individual items can be introduced as they are required. The teacher can then set up a screen with the required input and output icons.

The second level within this set up facility is the procedure page. This allows procedures to be stored for future reference. The next page allows for the use of input devices. Contained within the pack is a temperature sensor and other input sensors such as a touch sensor, a light sensor and an angle sensor are available at extra cost.

The third level within this section allows pupils to make an interactive report of their control project and allows them to use various methods to achieve this. The tools available are:

- Graphing, which allows pupils to show graphically, the information obtained from sensors;
- Text, which allows them to create a text box on the page to write about what they have done;
- Pictures, which allows the use of pictures to enhance a project;
- Monitor, which displays values on the screen, for example, the readings from the temperature sensor;
- Buttons, which gives the opportunity to provide buttons on-screen which can operate output devices by using logo commands and
- Sliders, which allows the power to be varied for any output channel.

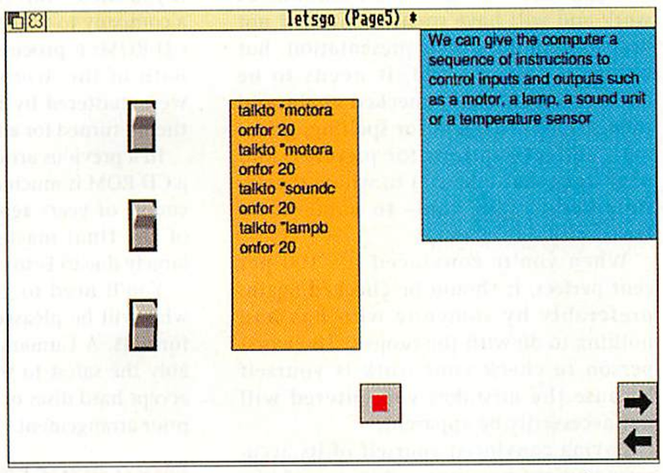
First Computer Control and NC

There are many software packages that deliver specific parts of the National Curriculum such as word processing, data logging and control. First computer control is a more broadly-based approach with software, hardware and support materials that support the wider development of a pupil's IT capability.

The system deals not only with control, measurement and monitoring but also gives pupils the opportunity to report and communicate a variety of ideas and findings through a combination of control, word processing and graphics packages. There is a clear progression from Key Stage 1 through to Key Stage 4 utilising a logo programming environment common to all key stages.

A very useful booklet from Lego Dacta called *Information Technology in the National Curriculum* proved very useful when constructing a project using the system. It is an invaluable aid to planning which gives teachers ideas for the whole planning process including: a Key Stage summary; year plan; schemes of work; units of work and lesson plans.

It includes guidance on how the Lego system can help achieve certain curriculum statements through key ideas, focused activities and Lego Dacta resources through the four key stages and it also shows how pupils can be assessed using the system from level one up to level eight.



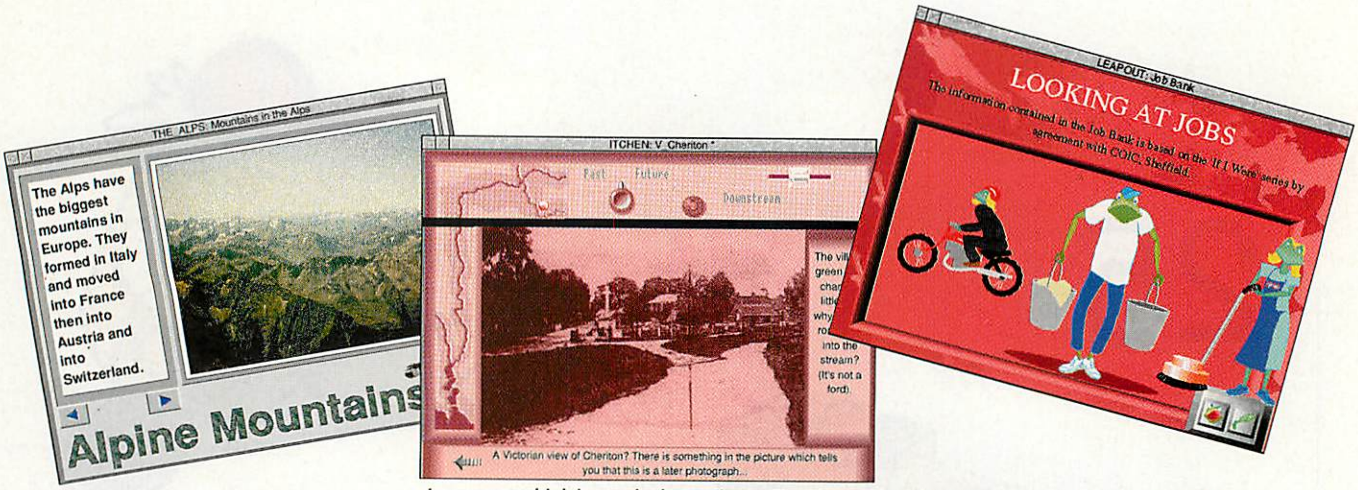
Using inputs and outputs

In the classroom

I found, that in the classroom, First Computer Control was very easy to set up. The instructions were clear and easy to follow. The software was simple to load and the model easy to connect — much of this can be done by older children at Key Stage 2, younger children may need help.

The children soon became familiar with the conventions used in the software and were able to work independently, at their own pace. The workcards were well received by the children who generally found them easy to use and understand. One very useful option in the software was the ability to keep a text record of the activities undertaken which proved a useful aid to assessment as well as focusing the pupils on the activities they were undertaking.

In conclusion, this system solves the problem of control technology in the primary classroom. It is a well thought out hardware and software package which is easy to use with little technical experience needed by the teacher. The use of Lego building materials means that most pupils will be familiar with constructing models thus providing initial motivation which is then built on by the software itself. It is a leading contender, money permitting, for any primary school thinking of investing in control technology resources. AU



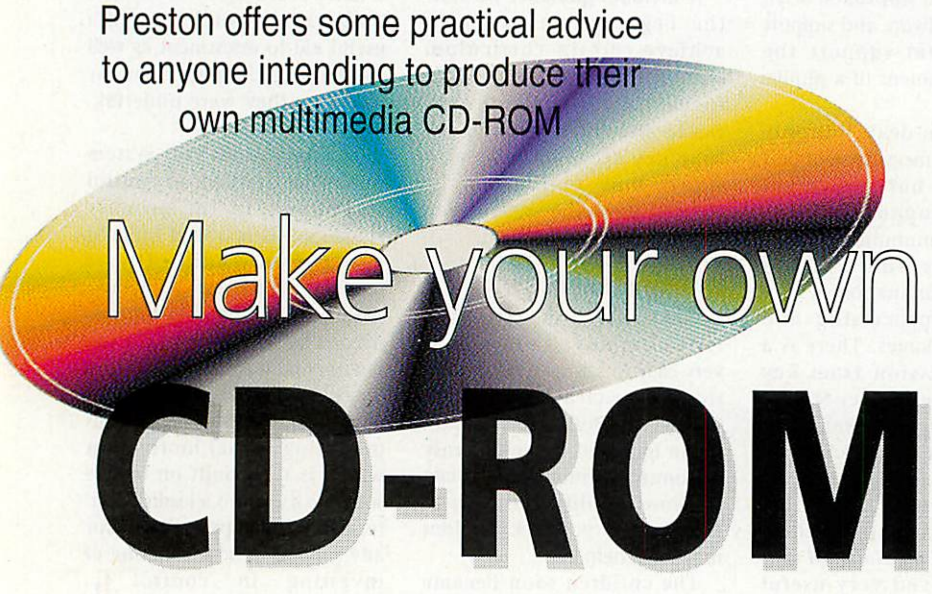
In case you think it may be beyond you, *The Hampshire CD-ROM* was created by three teachers

Anyone getting to this stage will have produced a significant amount of work and will have spent months, if not years, assembling their presentation. But before it can proceed, it needs to be checked, re-checked, checked again and then re-checked again for spelling, grammar, correct captions for pictures, and page links that take you to where they're supposed to take you – to name but a few.

When you're convinced it's 100 per cent perfect, it should be checked again, preferably by someone who has had nothing to do with the project. The worst person to check your work is yourself because the mistakes you entered will not necessarily be apparent.

Having convinced yourself of its accuracy, you can now proceed in one of two ways. You may decide to lock everything and leave the multimedia presentation on your hard disc for use within your own school or for personal use at home. If that is the case, turn over and read the next article. The alternative is to put it on to CD-ROM.

In the final part of his series, Geoff Preston offers some practical advice to anyone intending to produce their own multimedia CD-ROM



Make your own CD-ROM

Creating a CD-ROM

If you choose this route, you'll need to find a company to transfer all your work on to a CD-ROM: a process known as mastering. Both of the *Acorn User* cover CD-ROMs were mastered by Eesox, and so it was to them I turned for advice and prices.

In a previous article I said that producing a CD-ROM is much easier now than it was a couple of years ago. This is especially true of the final mastering, and this fact is largely due to Eesox.

You'll need to get your work to Eesox who will be pleased to receive it on most formats. A Cumana proTeus disc is probably the safest to send, although they will accept hard discs or even your computer by prior arrangement.

More error checking

Before your work can be transferred to CD-ROM, it must be converted into the standard CD-ROM format known as ISO 9660 standard. This is done by Eesox using *ISOform* – a program that will check through your work ensuring that, among other things, the filenames are in the correct format, and then automatically convert the files to ISO 9660.

This CD-ROM standard requires filenames to be in upper case, containing only numbers, letters and the under-score character. Anything else is illegal, except a pling (!) at the start of a filename. If an error is found with a filename, it will clearly need to be changed, but that may throw up another error, if, for example, the filename is referred to from another part of the software.

Because of this, and some other potential problems which can't be corrected after the CD has been mastered, Eesox have developed *CD Simulator* which, although quite expensive at £149+VAT, will enable you to check for errors in the comfort of your own home and before you begin talking to a CD mastering company. It simply creates a CD-ROM image on any filing system so your work can be thoroughly tested just as if it were a CD-ROM.

The next thing you need to do is decide how many discs you want to produce. The quantity will largely determine the process:

- Produce a single one-off. This is going to cost about £60 and involves copying the ISO 9660 image on to a write-once CD called a *Gold*.
- If you want a limited run of a dozen or so, further gold discs can be created and each additional disc will cost between £20 and £30 depending on the exact number. This is probably the best method of producing a small number of CD-ROMs for review and mass testing purposes, but after you've past about 10 to 15 gold discs, the cost will be approaching that of the next option.
- Go into full scale production and market your product. This involves a Glass Master which will cost about £500 but, after that initial outlay, CD-ROMs can be produced from the master for about £1 each (depending on the number required) That figure includes printing on to the face of the CD-ROM and supplying a hinged case.

Well, that's all there is to it. If anyone decides to create their own, and succeeds, send me a copy of your work and I'll review it in a CD-ROM Round Up.

Eesox may be contacted on (01954) 212263.

AU

Free Ads

• Wanted: A3000 2MB, RISC OS 2, ARM 2 with colour monitor for young student. Reasonable price. Tel: (01706) 817570 (must be OS 2).

• Star LC24-200 colour printer & ribbons, £85. Wolfenstein, £15, Diggers, £12, Dungeon, £10, Desktop DB, £10, Revelation, £20, all as new. Atelier, £20, PC Em & DOS 6, £25, Real McCoy 2, £15, TechWriter, £50. Tel: (01727) 856085 (eves).

• A410/1 4Mb RAM, 53Mb Hard Disc, OS 2, newly replaced mouse, disc buffer board, no monitor. £200. Call Tony (01704) 563344 or e-mail thowat@xargle.demon.co.uk

• RiscPC, Arm710, 425Mb HD, 8Mb RAM, 1Mb VRAM 486 card, Acorn High-Res monitor, various software excellent condition, still under warranty £1490 ono Tel: (01661) 825161 or e-mail ango@argonet.co.uk

• Wanted. A5000/ARCH/RPC, Ethernet, 40Mb Harddrive, 2Mb RAM, No monitor. Willing to pay a resonable price. Tel: (01582) 764147 or Email: craig@hell.btc.uwe.ac.uk

• ProArtisan 2 CD, with manuals, only £30. Phone (01703) 346809 and ask for Kevin, or email krp194@soton.ac.uk

• FOR SALE: Archimedes 420/1 Computer, 40 Mb Hard Disk, 4 Mb RAM, Mitsubishi Hand Held scanner, Midi Card, Impressions II/Publisher, Anti static non-glare screen. £450 ono. Tel: (01484) 451847 or E-mail JGarvey@firstaid.demon.co.uk

• 100Mb SCSI drive and interface, £100. Archiboard BBS host software, £50. Call (01603) 501504 evenings ask for David. Will split delivery costs.

• Acorn bits: Back issue magazines/coverdiscs (AU, AW, AC, MU) '91 onwards £1 each; Risc User discs (Jul '95 onwards) £3 each; Almanac 3 £offers£; Mousemats £1 each. Contact Jon (01823) 680111 or email ayl-winj@year2m.richuish.ac.uk

• Does anyone have any old (like 1980's) BBC econet gear of any type? Any help greatly appreciated. Email: garan@digiserve.com

• Eagle MKII, mint condition, cables & documentation + latest software revisions of AudioWorks and Scanlight £250 ono. Also Acorn 16bit sound upgrade for RiscPC £40. Call Paul 0171-202 3309 or email: paul_jagger@uk.ibm.com or ubac5hc@dcs.bbk.ac.uk

• Games for sale: Cannon Fodder, Carnage, Black Angel, Fish, Mig 29M, Pandora's box, Saloon Cars Delux, Stunt Racer, Star Fighter, Gods, Pipemania, Sim City L10 each L90 the lot. Also PC CD games Creature Shock, Command & Conquer & Alone in Dark II. Tel: 0171-202 3309 or email: paul_jagger@uk.ibm.com or ubac5hc@dcs.bbk.ac.uk

• Impression Publisher 4.08 £80, ArtWorks CD-ROM and discs 1.60 £75, Photodesk 1.22 £100, Graphics Loaders £20, RTF/WP Loaders & Savers £20. Telephone after 5pm (01752) 840027.

• WANTED: BBC Master Advanced Reference manual in good condition, call Paul 0171-202 3309. Email: paul_jagger@uk.ibm.com or ubac5hc@dcs.bbk.ac.uk

• For sale: Canon Bj-10e bubble jet printer, automatic sheet feeder, two ink cartridges. Excellent condition. £100. (01296) 615825 or Mailto: timil@argonet.co.uk

• Wanted: R140 - any condition. Email: garan@digiserve.com

• A5000, 4Mb RAM, 120Mb HD, Multiscan monitor, FPA10 floating point accelerator, MEMC 1a. Excellent condition, £600 ono. Tel: (01934) 863248 (eve)

• Clares Compo (latest release version 1.02) INCLUDING Virtualise - £70, Revelation ImagePro24 - £20; Clares ProArt 2 - £25; Oak Archimedes Basic Compiler - £25. All software with full original documentation. Contact Pete on (01663) 733027.

• For sale: Old AU issues and subscribers discs. Discs - 50p each, AU issues £1 each. Tel: Thomas on (01223) 324318 after 6pm.

• A3010 Early Years + AKF53 monitor, 2Mb. 2 months old, unused, complete with all manuals/discs. All un-registered. £300 ono. Tel: (01223) 243941.

• Art software, Pro Artisan 24 for RiscPC, £40. Revelation Pro by Longman, £35 ono. Tel: (01908) 560093, both boxed.

• A5000 4Mb, AKF18 monitor, 2 x 540Mb HD, SCSI interface, 330Mb external HD (SCSI). Midi/Sound sampler interface, 486 PC card. Lots of software. Boxed c/w manuals. £1200 ono. Could seperate. Tel: Trevor (01775) 710640.

• Acorn A3000, colour monitor, Epson LX400 printer, Learning curve & extensive range of software including Populous, Gods, Sim City, Turbo Challenger, etc. All for £500. Tel: (01763) 852006.

• Desredit 3 £10, Arctist £5, Flashback £15, Enter the Realm £13, Swiv £5, Blowpipe £5, unopened Style guide £6. Wanted: The F.S.T. Phone: Dave (01267) 236499.

• Ilyama VisionMaster Pro 17 inch monitor, purchased December 1995, £550 (too big for available desk space). EasiWriter Professional, version 3.16 with manuals, £85. Acorn Advance, version 1, £35. MacFS Light, version 1.04, £30. Prices incl. postage and packaging. Phone: 0131-447 8624.

• Electron, plus 1+ 3, View, Viewsheet, many games, £50 ono. BBC Master 128, Beebug Master ROM + much software inc. Hybrid System 5000, £75 ono. Tel: 0151-727 1454.

• For sale: A3000 RO3.1, 4Mb RAM, AKF17 colour VDU, monitor stand, serial chips, ideal ham packet, £350 ono. Pref buyer sees/collects. Tel: Weston-super-Mare (01934) 514674.

• A3000 2Mb RAM, Philips CM8833 colour screen, joystick, Star LC10 colour printer, manuals, software incl: Impression II, Interdictor, Sim City, Lemmings, Pandoras Box, E-Type, Golf, Hostages, Apocalypse and many more. £350. Tel: (01622) 730126.

• Impression Style, still boxed, brand new, not used or registered, £70. Tel: 0116-289 2296 after 5pm, ask for Ash.

• A4000, 2Mb, 80Mb HD, Acorn Multiscan monitor. Excellent condition, £600. Also HCSS Multipodule system with Midi and sampler card, £60. Tel: 0181-397 2305 (Chessington, Surrey).

• PD/shareware - low cost software for sale. For catalogue send DD/HD disc & SAE: Mr D Mills, 4 The Fairways, Dipe Lane, East Bolden, Tyne and Wear, NE36 0PG.

• Wanted urgently! RISC OS Programmers Reference Manuals (cheaply). Cannot afford first-hand!. Tel: (01227) 830470.

• Wanted: Educational software for Master Compact and Master 128. Especially pre-school/primary. Tel: (01734) 474814.

• Archimedes A5000 Learning Curve, complete, original packing and documentation, many extra games and applications, £850 ono. Tel: (01494) 765155.

• For sale! 100 3.5in high density discs £20 inc p&p. Tel: Matthew on 0181-523 8058 (office hours) or 0973 301 882 (evenings).

• EasiWriter + version 3 £70, Pipedream 4, £60, both unopened, unregistered. Tel: (01347) 848368 after 6pm.

• BBC master computer, Acorn data recorder, Watford plinth 40/80 DD, manuals, games, leads, extras. Buyer collects, offers. Tel: (01444) 811615 (Sussex) before 8pm.

• Risc PC, 2 slice, 420Mb Hard disc, (16Mb RAM, 2Mb VRAM, SCSI 2 and CD-ROM, Eagle M2 card, Photodesk, Publisher Plus, Artworks, Image FS, Image Animator, £1600. Tel: (01900) 814602.

• A3000 RISC OS 3.11, 4Mb RAM, 170Mb HDD, stereo/col monitor, joysticks + interface, books, discs, £550. 5.25in disc interface, £15. 1-2Mb RAM, £20. Tel: Steve Taylor (01304) 812537 (Dover).

• Cumana 300IA CD-ROM drive with sound mixer, manuals and CD utilities for sale. Ideal for any Risc PC owners. £100 + (£10 p&p or arrange for collection). Also Personal Accounts v3, £20. Tel: Dipak 0116-266 3721 (Leicester).

• A3000, RISC OS 2, 4Mb RAM, Acorn colour monitor, £180. Collect or pay delivery. Tel: Rob on (01225) 462859 (evenings).

• Risc PC 600, 8Mb, 2Mb VRAM, 420Mb HD, excellent conditon, manuals, unopened. CD ROM, Acorn C/C++. AKF85 monitor, negotiable + games including SC2000, Dune2. £1000 Tel: (01462) 835893 (8-11pm).

• For sale: Swiv, £5, Sim City 2000, £15, Will swap. phone William on (01228) 70120, between 4.30pm and 10pm.

• A3000 4Mb, RISC OS 3.1, CUB 3000 monitor, 30Mb HD, joystick, monitor stand, 1st word plus etc. All manuals, discs, Star LC10 colour printer, £370. Tel: (01702) 714298.

• A3010, 2Mb RAM, Philips monitor, mouse, two joysticks, ZIFI powered speakers, 20+ games, diskbox, manuals and introduction tapes. £120. Tel: Bury St Edmunds (01284) 728406 (evenings).

• For Sale A4000 4Meg 80M HardDisc, AKF18 monitor, Acorn 386 PC card (1M-4M, DRDOS). Telephone support, Selection of software, VGC. £500 ono. Tel: 0121-414 0913 or 0116-241 3850.

• Wanted: 2 to 4Mb RAM upgrade for A3010. Tel: Kevin on (01256)742184 (office hours). Email: KevinB@bartley.demon.co.uk (any time!)

• Acorn A5000, 4Mb RAM, 40+240Mb HD, multiscan monitor, SCSI interface, CDROM drive, software, books and mags. Buyer collects. £700 ono. Tel: 0151-648 6207.

• A440/1, 4Mb RAM, 47Mb HDD, RISC OS 3.1, AKF30 Stereo Monitor, User port, Analogue port, 1MHz Bus, Watford Hand Scanner, Impression Junior, Interdictor, Asylum, Elite, PD. £300. Tel: (01661) 825984.

• A3010, 2Mb RAM, original software, manuals & packaging, joystick, gamepad, software inc Crystal Maze, Zool, Lemmings, Sim City, Noddy's Playtime plus more. £250 ono. Tel: (01226) 752695.

• A3000, AKF12 monitor, 4Mb RAM, 48Mb SCSI HD, manuals, First Word Plus, PC Emulator, £475 ono. Buyer collects. Tel: (01252) 543502.

• Nevryon, Twinworld, Drop Ship, £7.50 each. Heroquest, The Wimp Game, Fun School 2, under 6s, £5 each. Plague Planet, £3. All plus carriage. Tel: James on (01252) 543502.

• A5000, 4Mb RAM, 162Mb HD, RISC OS 3.11, AKF18 monitor, software, box and manuals. As new. £800. Tel: (01954) 781984 (eves and weekends).

• Computer Concepts Scanlight Video 256 for Archimedes and Risc PC. Complete with manuals, packaging and latest software. Very good condition. £120. Tel: (01302) 338312 after 6pm.

• Risc PC 8Mb + 1Mb VRAM, 420 HD, AKF60, Quad speed CD-ROM, 16 bit sound card, 486 PC card, Vision 24 digitiser, dual Pro pads plus various software. A1 condition - must go. £1500 ono. Tel: (01228) 41375.

• Risc PC 600, 9Mb, 420 HD, CD-ROM, 17in monitor, Impression Publisher, Schema 2, manuals, discs, PC card, much PC software, ProArtisan on CD-ROM. Excellent condition. £1800.00. Tel: (01248) 490122.

A3000, ARM3, 4Mb, 120Mb, SCSI, AKF12 Stereo Colour Monitor + Plinth Serial Upgrade. HCCS Digitiser, Pipedream 4, Style. Non-upgradeable. Epson LG400 (repairable). Split carriage. £350ono. Tel: (01222) 615517.

• A3010 with 4Mb RAM, 80Mb Hard Disc, HCCS Ultimate Podule, AKF-30 monitor, PRES Monitor Stand. £400. Also! Scanlight 256 Hand Scanner for A3000, A3010, A3020 or A4000. £100. Please contact Toby evenings on (01689) 877586.

• Bare 20 Mb HD (IDE) inc cable £25 Tel: (01442) 60529 ask for Chris.

• Software: Impression Style (complete) as new, £40. Wanted: Sibelius 6 software and manuals (for deaf daughter). Please contact: A J Fox, 10 Hornsby Avenue, The Harleys, Worcester, WR4 0PN.

• Archimedes Educational software (Infant), Teachers Cupboard (Sherston) £19, Amazing Ollie (Storm) £7, Picturebook (Triple R) £9, Funschool 2 under 6's £14, Numbers and Pictures (Chalksoft) £14, Freddy Teddy (Topologika) £10. Tel: (01226) 202574.

• A5000, 2Mb RAM, 40Mb HD, AKF18 monitor, Citizen Swift 24e printer, loads of educational software and games, all for £700 ono. Tel: (01225) 705479.

• SJ MDFS Fileserver, 63Mb HD and tape streamer, £200. Tel: (01480) 451121 (day) 393649 (eves).

• Acorn C/C++, with style guide, all boxed and unopened. Offers of around £150. Tel: (01962) 779964, weekends and evenings only. Ask for Robert.

• Risc PC 600, 4Mb HD, 425 AKF60 monitor, as new, £850. DataPower, £45, Eureka, £65, Animator, £30, Image Outliner, £20. All unused. Tel: Reading (01734) 426843.

• A3000, 1Mb RAM, Learning Curve, colour monitor, Citizen Swift 24 printer with colour kit, all boxed with software and manuals, £300. Also games including Stunt Racer 2000, Saloon Cars Deluxe, Sensible Soccer, SWIV, Premier Manager, Man Utd Europe, Zool and lots more all boxed, £10 each. Tel: (01752) 830474.

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More delights from Dave Acton and Dave Lawrence

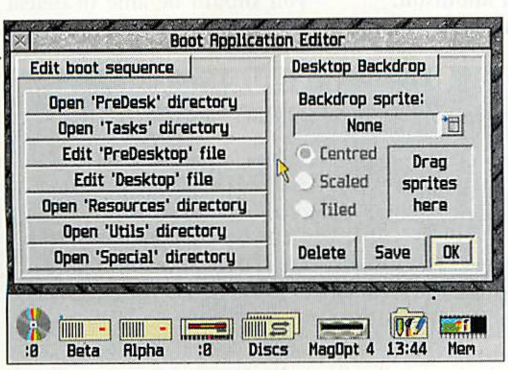
Putting the boot in

Author: Roberto Casula

One of the most welcome features of the release of RISC OS 3.50 was the introduction of a standard boot sequence. Over the years, I'm sure everyone developed a different system of Boots and Runs and Library directories and although the RISC OS 3.50 system is just another one of these, it's standardisation has made it very easy for additions to be made. Roberto Casula was so impressed with the system that he has adapted it to work on pre-RISC OS 3.50 machines.

Roberto warns us of two things; firstly don't install this on a Risc PC, there's no point overwriting the existing boot sequence and secondly, *please* be very careful during installation. Before doing anything, copy your existing boot files and directories to a safe place so if anything does go wrong you can retrieve your original setup!

To install Roberto's boot, copy the !Boot application into the root directory of your disc. Make sure your boot option is set to 2 (Use *Opt 4 2) and that you have *Configure Boot set. Reset your machine and everything should run!



There are two bits to !Boot, depending on whether you are booting your machine or running the application in the desktop. This state is discovered by reading the system variable Wimp$State – it can have the values 'desktop' or 'commands'. From the command line the file !Boot.!RunCom is executed; from the desktop !Boot.!RunDesk is run instead.

!RunCom first checks if the Alt key is being pressed – this is used later. It then checks your CMOS RAM. If any locations are different from the last time the machine was booted, you are asked if you wish to reset them. This is useful if some little prog (or some little fingers) have been fiddling with things they shouldn't. Next up, a banner is shown. The default one tells you the current time and the time of the last boot – this can be changed if you want.

The file !Boot.Choices.Boot.PreDesktop is run and the directory !Boot.Choices.Boot.PreDesk checked. Here all modules are loaded, all sprites IconSprite'd, all obey files executed and all applications run. Now the desktop is entered and finally the file Choices:Boot.Desktop is run. This file does the following:

- Sets up a 'desktop save' file. Whenever you quit the desktop, your current desktop state is saved to this file. By default, it is !Boot.Utils.ReBoot.
- Boots all applications in the !Boot.Resources directory. You should place things like !System, !Scrap, !ArcFs etc. here.
- Runs all files/apps in the !Boot.Choices.Boot.Tasks directory. If you want your desktop to start up with various utilities loaded you should stick them here. I put !Director and a desktop clock here.
- Runs Choices.Special.Desktop if Left-Alt was pressed on boot.
- Sets up the backdrop if you have one configured (See below).

If the Alt key was held down during boot, the files Choices.Special.PreDesktop and Choices.Special.Desktop are run at the appropriate point. These are handy for setting up things that you don't necessarily want loaded every time you boot.

When customising the boot sequence, the most important point is to decide whether you want the modification to happen before or after entering the desktop. For instance, if you want your desktop to start with a clock loaded, this should be done after the desktop has been entered. If you want to load the updated version of Fonts, this must be done prior to entering the desktop.

Double clicking !Boot from the desktop brings up a window which can help you in this respect. Interactive help is supported, and should be enough to allow you to tailor the sequence to your tastes. This window also provides a control panel for setting the desktop backdrop.

We must remind when installing Roberto's sequence: BE CAREFUL! Neither the author nor *INFO accepts any responsibility for loss of data caused, directly or indirectly, by these programs.

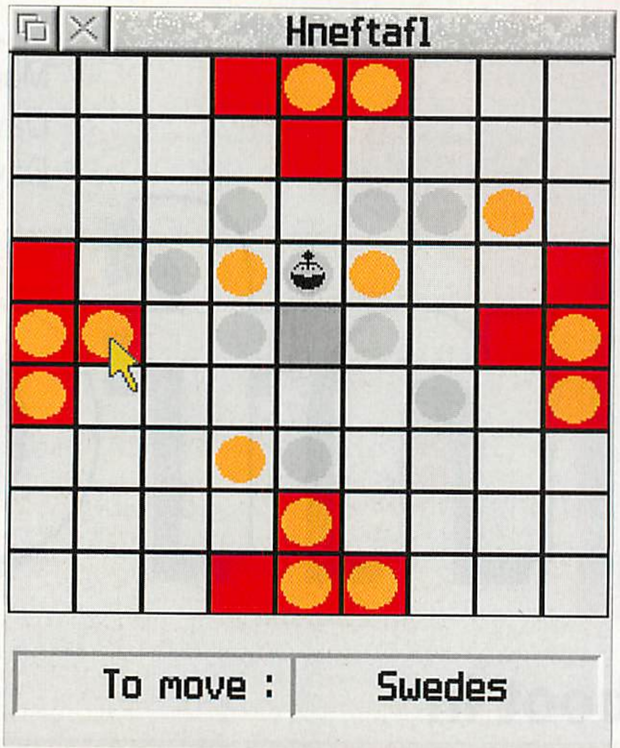
Hagar woz ere

Author: Stuart Whitehouse

We first brought you the delights of the Viking game *Hneftafl* way back in April 1995. There we described the origins of the game and provided a non-desktop version of the game. Since then Stuart Whitehouse has risen to one of our challenges and written a desktop version of the game. No computer player is included, so you'll need to find a fellow warrior to do battle with.

Hneftafl is for two players – the first plays the 'Swedes' and the other the 'Muskovits'. The playing board is 9x9 squares. The Swede side consists of a chief and eight followers. The chief starts on the middle square of the board. The Swedes win if their chief can reach the edge of the board. The Muskovits have 16 soldiers who start in four camps – one on each edge of the board. The Muskovits win if they capture the Swede chief.

Pieces move along horizontal or vertical lines. They cannot move diagonally. Pieces cannot hop over other pieces, and only one piece is allowed on each square. Furthermore pieces may not move into (or over) the camp squares from outside – not even their own camps. A Muskovit piece can move around inside its own camp before it leaves it.

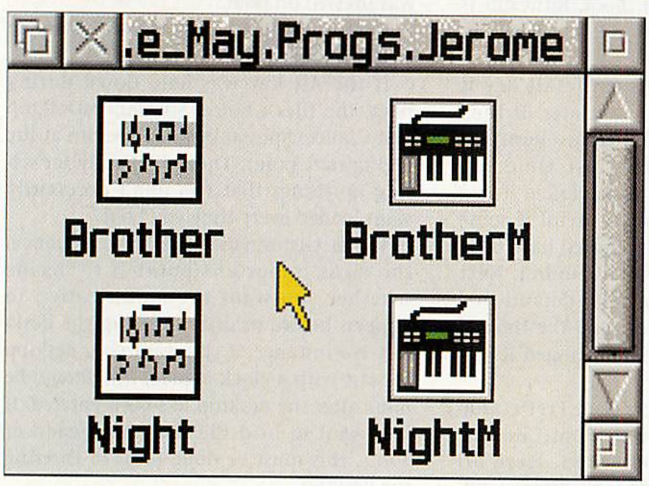


You capture an enemy piece by positioning two of your pieces on opposite sides of it, that is, either one above and one below, or one to the left and the other to the right. The Swede chief cannot be used to capture Muskovit pieces. The Swede chief can only be captured by four pieces – one in each direction. However for this purpose the Muskovit camps count as if they were pieces. Thus the chief can occasionally be captured by just two Muskovit pieces and two camp squares.

For those interested in the origins of the game, the original text from the April 1995 issue of *Acorn User* is included on the cover disc.

Brother mine – what a night!

Author: Mr P F Jerome



Mr P F Jerome was so taken with our Christmas Carol selection that he sent us some of his own musical work. The two pieces presented here are from Strauss' *Die Fledermaus*. Mr Jerome has supplied both Rhapsody and MIDI files. The music was entered from the score into Clare's *Rhapsody2* and played back on a Yamaha Clavinova. The voice allocations therefore correspond with the Clavinova.

Rhapsody users without a MIDI interface will have to change the options from MIDI to Speaker, but appropriate Rhapsody voices should already be assigned. People without Rhapsody or a MIDI card, could try using *TiMIDIty* – a program that emulates a MIDI interface in software, more information on this can be found on the website at http://www.hut.fi/~titoivon/timidity

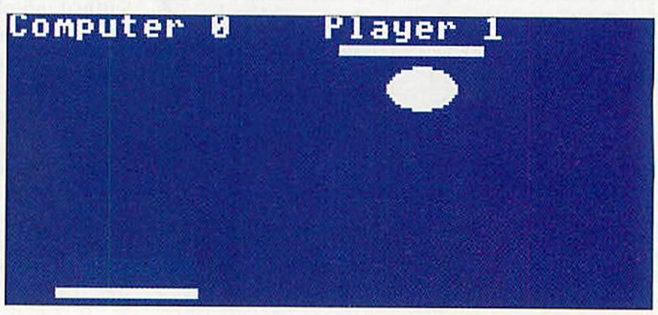
Canoeing your own paddle

Author: Richard Critchley

These days the first computer game most people will play is *Assault Ninja Planes III*. Oldies are more likely to think fondly of *Tempest*, *Defender* or *Pacman*. The first game we probably played was on a portable black and white television round Alex Weir's house, and the game was probably *Pong*. Personally, I remember peering at the exhibits in the Science Museum and playing a golf shot on an oscilloscope that looked as if it had been made by Heath Robinson.

If all this has made you all sentimental for your old Binatone, you needn't start rummaging around in the attic, for Richard Critchley has written *PaddleWar*. Don't be put of by the antagonistic name, it is just good ol' *Pong*, but does come complete with a computer opponent!

Instructions? Surely not! Let's see now, um, move your paddle and, er, hit the ball. The ball can bounce off your bat at two different angles but by careful batmanship you should be able to defeat the computer.



Pretty Slicker

Author: Graham Berry

Some time ago we asked if anyone could come up with a programmable sliding block puzzle. As if by magic, here is such a very thing, courtesy of Graham Berry.

Slicker stands for *SLI*ding blo*CK* puzzle Edito*R*. The application enables you to create puzzles in four sizes – 4x4 5x4 5x5 and 6x5 – using six different shaped blocks. On completion of the design it can be tested and saved as is or, using the 'learn' function, can be saved complete with integral Demo.

For speed, Graham originally wrote the game so that it would only run in mode 12 or 14. Direct sprite plotting is used for speed and smoothness of animation. We include the original on the disc as well as a slightly tweaked version which will work in any screen mode.

'After installing, click on the Slicker icon to open the Edit window. Double clicking on a *Slickfile* icon will load that game and open up the Game window. (Three examples are on the disc.)

'The Edit window contains three rows of icons: the top row select the game size and the middle row select the block to be plotted. On selecting a game size a suitable window will open up containing a plotting grid filled with small squares and a control panel.

'Blocks can be placed in any legal position on the grid by first selecting a shape icon and then clicking with Select on the grid where you would want the bottom left corner of the block to be. Blocks can be removed by clicking on them with the Adjust button. It is possible to provide a text instruction for the game by selecting the 'T' icon. Simply enter the text in the writable icon provided.

'It is possible to swap between window sizes when editing by clicking the appropriate icon. The only limitation to this is that you can't go to a smaller size window if a block is in such a position as to prevent it. The size icons are 'greyed' out to indicate this.

'When the grid has only two remaining spaces, the puzzle is then deemed playable and the Play icon is now selectable. Obviously it is up to the user to design a 'playable' game.

'Selecting the Play icon causes the remaining two squares to be removed from the grid, the bottom left icon on the window control panel will show and the Clear icon will change to Learn. The top icon on the panel is a move counter and the left one is for resetting the game to the start position.

'To play the game click with either Select or Adjust on the blocks. If it is possible for the block to move it will travel in the direction it can.

'Note that if it is possible for a block to travel in two directions then use Select to move vertically and Adjust to move horizontally. For a vertical or horizontal block, click on the end nearest the direction you want it to travel.

'You can flip between Play and Edit modes until the game is to your satisfaction. When you reach this stage you can opt to save it as is or you can save it with a built in demo as follows. In Play mode, click on the Learn icon with Select. The game will reset itself and up to 255 subsequent moves are stored in memory. When the last move has been made click on Play.

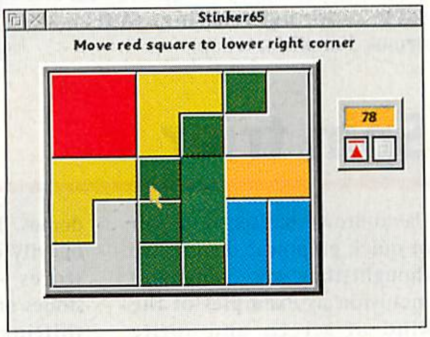
'The demo icon will now clear and clicking on this will demonstrate the solution. The game can now be saved as described below. Note that clicking with Select on the Learn icon will remove any previous demo moves from memory.

'If for some reason you save the game with an incomplete demo, it is possible to add on to it by clicking on the Learn icon with Adjust instead of Select, but this must be done as the first mouse click after the incomplete demo has run. Note that any editing of a demoed game will invalidate the demo function!

'Games are saved in the usual WIMP fashion using the menu over the Game window. Games are loaded in the usual manner by double-clicking on the game icon or dropping the icon on a Slicker window.

'Clicking on the icon bar Slicker icon when in Play mode will open up the Game window. Clicking on the icon when in Edit mode will open up both windows. To open the Edit window from Play mode, click on Open Edit from the icon bar menu. The sound although unobtrusive can be toggled on and off by clicking the Slicker icon with Adjust.'

For speed, Graham actually EORs the block sprites onto the screen, which is a neat (although slightly illegal!) way of plotting and unplotting things quickly. To modify the program to work in any mode we had to create a mode 12 sprite and redirect output to that. The sprite is then plotted using Wimp_PlotIcon, which takes care of all the colour translation stuff. We also make use of OS_ChangedBox so that just the section of sprite we have altered is updated.



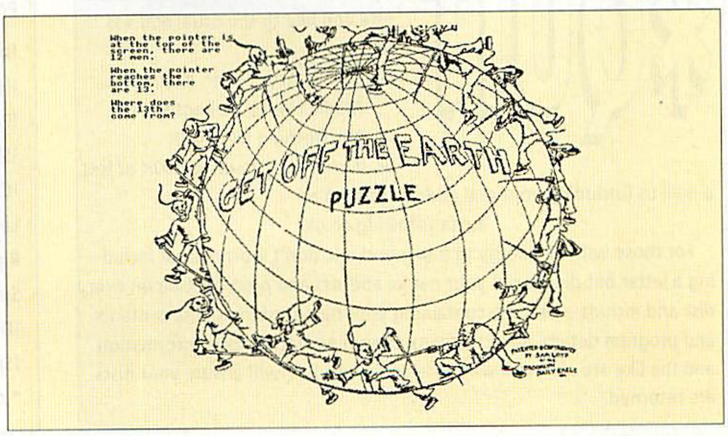
Chinaware

Author: Jan Vibe

In our attempts to bring you the latest cutting-edge demos, here is a little state-of-the-art puzzle from one of our ever-regular Jans. The original was produced just a century ago...

'!Chinese is actually a riddle in the form of a program. A couple of months ago, I got hold of a book called *Sam Loyds Cyclopedia of 5000 puzzles tricks and conundrums*. In this book is a graphic riddle involving rotating a circular part of a picture with some Chinese men on it. I decided to try to turn it into a computer program, and *!Chinese* is it.'

For the technically curious, Jan's version cuts the circle out by redirecting output to the sprite's mask and plotting a filled circle. The RISC OS 3 plot rotated sprite op then turns the middle section for us. If anyone else would like to computerise some classic conundrums, we would of course be delighted to see them.



Water good program

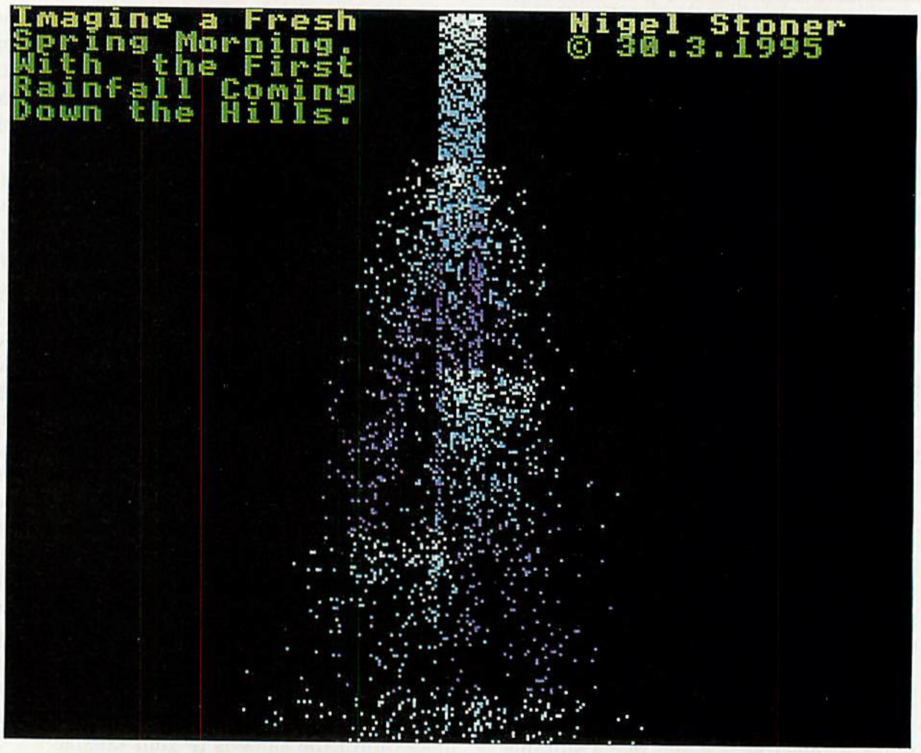
Author: Nigel Stoner

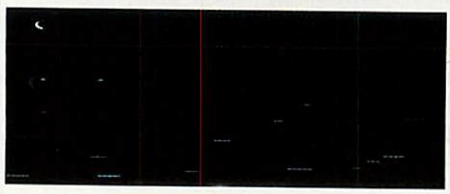
Well, in fact, what a good trio of programs. Three drippily, rippily, splashingly splendid demos now from Nigel Stoner of Barnsley.

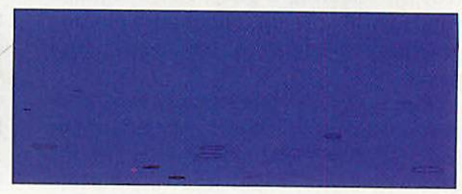
Lake_Rain is a simple but effective Basic ditty, inspired by a Jan Vibe program (aren't they all). Nigel simply added an extra dimension and the result is very pleasing to the eye.

As is often the case, an error in writing one demo can lead to another. *Ripplez* is testament to this, having been born from the last program by mistake. Watch the moon rise gently in (or, if you have the latest in ARM technology, hurtle through) the night sky, its reflection passing across the ripples of a near-calm lake.

For the final demo, Nigel moves in the realm of machine-code. *SpringFall* is apparently his first assembler program, so ten out of ten for a splendid debut. It's one of those 'loads of dots' efforts and takes a little while to get going. All of the water droplets are dropped in one go from the top of the screen and some bounce off invisible rocks on their descent. After a few seconds, they spread themselves out and the final effect is of a pretty convincing waterfall. Thanks to Nigel for all these soothing, relaxing, watery demos, I'm off for a nap.



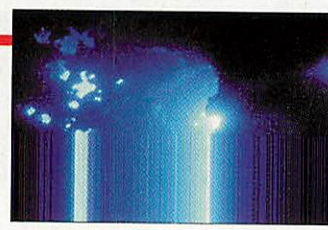




Spin trier

Author: David Brown

David Brown has sent us a pair of quick graphical demos. We thought they were worthy of inclusion as examples of the kind of screen and sprite effects often seen in rolling demos. The code in each relies heavily on multiple loads and stores – one of the corner stones of writing rapid graphic shifting code. Perhaps they will inspire someone to start writing their own demo, or maybe even some super fast arcade game.



We also included these demos, as the sprite included was rather pretty.

*QUIT

Please send your programs, hints, tips, musical offerings and whatever else you like to the usual address please:

*INFO, *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP

or, if your submission is 100K or less, e-mail us (including your real address please) at:

austarinfo@idg.co.uk

For those with an allergy to paper and ink, don't worry about including a letter but please put your name, address and program title on every disc and include a text file containing your name, address, disc contents and program details. Saved screens, drawfiles, background information and the like are always a welcome bonus. An SAE will ensure your discs are returned.

Compatibility table

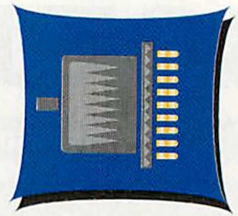
Program	RISC OS 2	RISC OS 3.1	RISC OS 3.5+
!boot	No	Yes	No
!Hneftafl	No	Yes	Yes
!PaddleWar	No	Yes	Yes
!Slicker	Yes	Yes	Yes
!Chinaware	No*	Yes	Yes
Lake Rain	No	Yes	Yes
Ripplez	No	Yes	Yes
Springfall	Yes	Yes	Yes
!Drip	No*	Yes	Yes
!Spin	No*	Yes	Yes

** may work with sufficient memory*

SOFTWARE SHOWCASE

ACORN USER ADVERTISERS INDEX

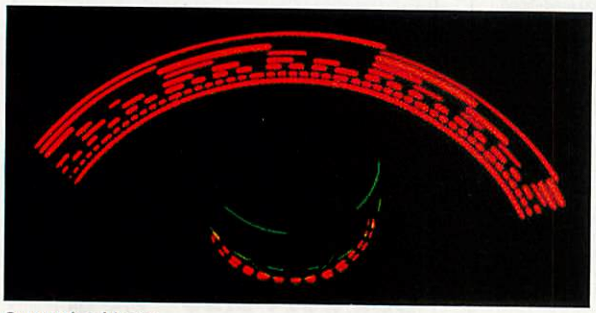
Mike Cook's hardware series



The second part of Mike Cook's LED Whizzer

All lit up

Last month I described the hardware of my motorised LED Whizzer. Those of you who didn't see it – buy the back issue you cheapskate, why should I go over it again just because you couldn't bother be bothered to show up? Sorry about that, I slipped back into lecturer mode for a moment there.



Outputting binary to the spinner

Anyway, this month I want to show you the results as well as describe the software to produce them. Well I know you have looked at the pictures already but for now let's pretend you haven't seen them and I will take you through it.

There are basically two ways to drive the LED Whizzer – algorithmically and by stored data – but when it comes down to it all you are doing is turning bits on and off and then sending them out to the printer port. The cover disc gives a Basic program to illustrate both cases so let's look firstly at the algorithmic approach.

What this means is writing a program to produce a repeating pattern of flashing lights. When these are rotated round at high speed they write the pattern in the air. However, the patterns you see are often different than those you would expect.

For example the first thing I tried was a simple binary count – that is output the bit pattern for one then two then three and so on. Look at the binary photograph and you will see it looks quite complex.

What you see is the inner light flashing on and off very rapidly, then, as you move out, the lights flash on and off for longer so leaving a longer trail. However, the flashing is synchronised and so you get that characteristic binary pattern.

A point here about how I took the photographs. Basically I took them in a darkened room and the combination of the speed of the motor and the camera shutter speed determines how much of the sweep is recorded.

I must say however, that good as the photographs are, they don't convey the brightness and sparkle of the real thing. The trails appear to be a little indistinct whereas when you view it directly the small points of light coming from the clear LEDs have that sharp laser-like look.

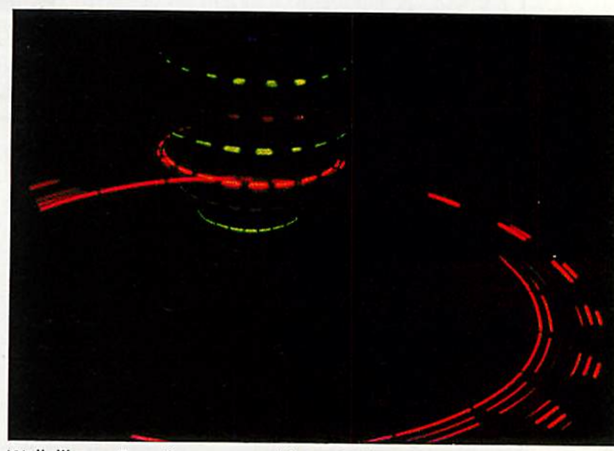
You can also see the lights of the loop on the binary photograph. I found that the same patterns looked very different in the loop and the bar and there was no consistent winner.

Now look at the pyramids photograph. This was taken at such an angle as to show both the bar and the loop. What is happening here is that bits are being turned on like a hi-fi volume bar display. It runs from bit 0 and turns on the bit to the left until it reaches bit 7 and then they start going off from bit 7 towards the left. I think you can see that this looks better in the bar than the loop.

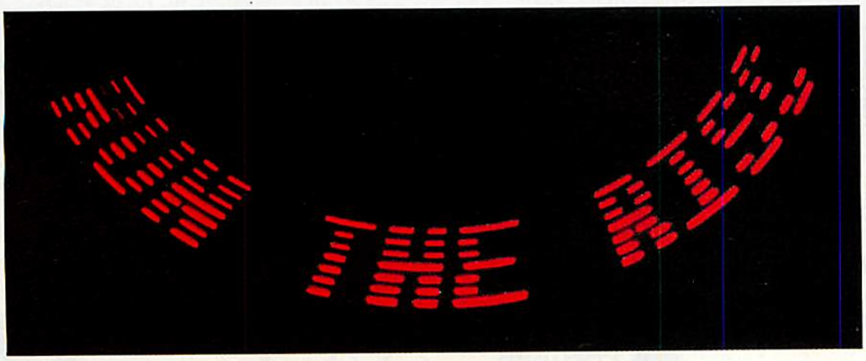
Another good bar pattern is the diamond photograph. Here a logic one is moved from left to right at the same time as another is moved from right to left. These logic ones bounce backwards and forwards producing the diamonds. Now on this photograph you will see the pattern appear to break up at about 1 o'clock but this is just an effect of taking the photograph.

The shutter is open for more than one revolution so that part of the space is swept twice with a different phase of the pattern. When actually viewing this you do not see this, rather you see the pattern slowly moving round the circle. You see, all these algorithmic patterns are not synchronised to the motor rotation so you can adjust the size of pattern and the speed of rotation by altering the motor speed.

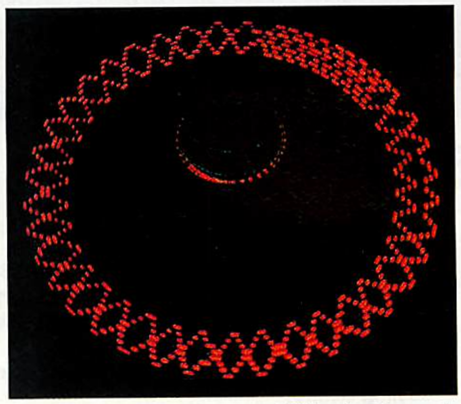
Finally in this sequence look at the loop photograph – although it can look pretty, it again does not do justice to the real thing. This was a pattern that appeared to spiral up the loop but it



Walk like an Egyptian or pyramidamania?



Synchronised patterns are stationary



Mining for diamonds

can't be seen in the photograph.

All these patterns, and more, are produced by the Whizz1 program on the cover disc – feel free to look at the code. You will notice that for each algorithm there are two different invocations. One is produced as fast as possible and the other has a delay between each change.

This produces two different effects. The short delay gives a compact pattern whereas the longer delay more of a looping changing pattern. If you really want to stop the pattern moving you need to synchronise it to the shaft detector coming in on bit 7 of the status register. This is illustrated in the next section.

The program Whizz2 is an example of synchronised data output. The bit patterns output to the LEDs are held in an area of memory and this memory is transferred to the printer port one byte at a time. However, whenever the shaft detector produces a logic pulse the pointer, giving the next memory location to output, is reset and thus the same memory bytes are output at the same point in space.

As an illustration of this I have gathered together data to produce ASCII characters. This enables the program to take in a string and display it in lights. Modesty forbids that I write my name in lights but I couldn't resist putting the title of this series in lights in the RUN THE RISC photograph.

You might have noticed that I have not implemented lower case characters. This is quite deliberate because there are only eight LEDs. Although you can represent all the characters in this many lights there won't be enough space to allow lower case descenders – letters g, q, y, p and j.

Now, as the pattern is fixed to the rotation of the lights, if you increase the speed of the motor all that happens is the letters spread out in space – slowing down the motor allows you to get more letters in the circle.

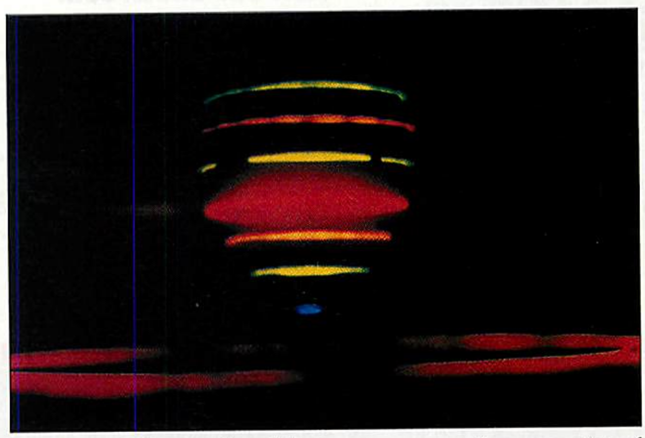
As you will see I have written the programs in Basic. This is more than fast enough on the Risc PC but might be a little slow on the older machines. The simplest solution is to slow down the motor, although this will increase slightly the flickering of the effect.

This will not matter much especially if the unit is viewed in darkness, which is where you get the maximum effect. If this is not possible you could always write some part of the program in machine code.

I always like to leave a project with something more that could be done by you. How about taking the second program and filling up the data memory from a desktop routine that allows you to click on a grid and make your own patterns? Then you can save and load the data and so have a mixture of words and patterns.

Well there you have it, a special effect that more than repays the time and effort required to build it but let me add a postscript. It has long been a standing joke that I can make electronic equipment work by my mere presence. My first editor, Mike Bibby, used to say that I could mend computers by faith healing.

Well an incident occurred when I was making this that made me think that it might be true. The whizzer was whirling away on the bench and I had just got it to produce the words *Run The Risc* as I looked down on it.



Close encounters of the LED kind

However, as I moved away the pattern appeared to break up, when I moved back it appeared to work. I thought it was something to do with the angle I was viewing the LEDs as they have a nominal 20 degree viewing angle. This seemed to be a consistent phenomena so I called in my son Alec to have a look. He looked down on the system and confirmed that it stopped working when I went away.

This was getting unreal so I told him to swap places with me and I would look while he moved towards and away from the machine. Sure enough he could make it stop working. Then I had the answer and it was nothing to do with supernatural powers.

What was happening was that standing close to the machine I was casting a shadow on the sunlight streaming through the window. When I moved away the optical rotation sensor was being dazzled by the sunlight and was producing erratic pulse. Problem solved, as they say.

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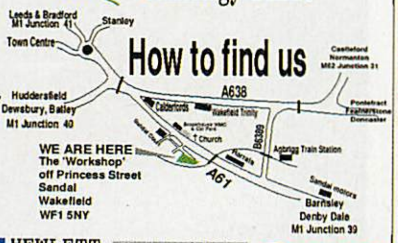
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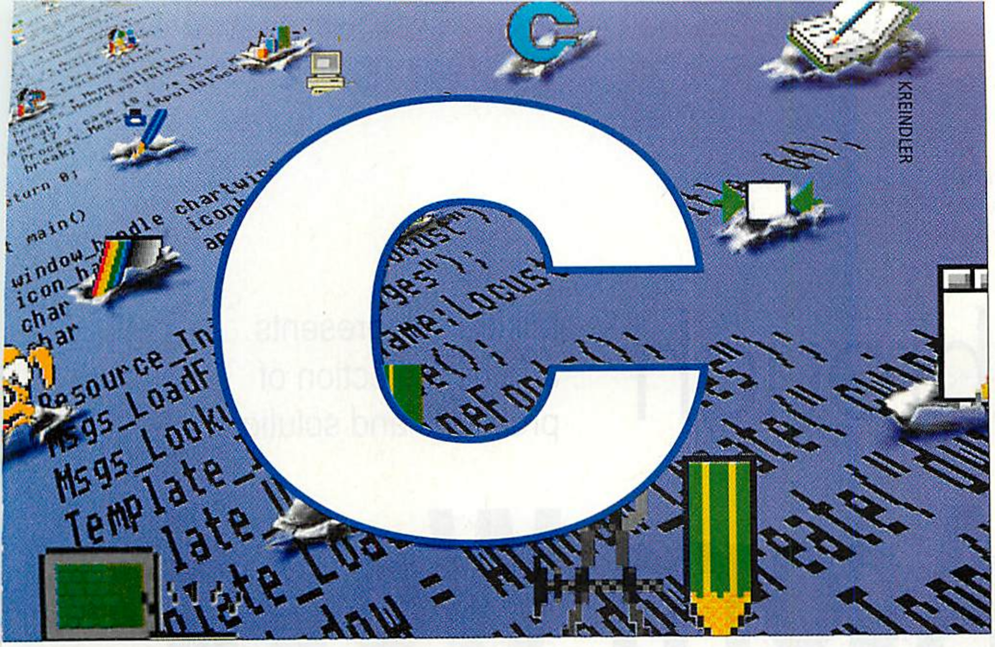
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C for yourself

Steve Mumford looks at menu creation in this month's tutorial

To recap – we've managed to create an application that installs itself on the desktop and pops up a window that displays the name of the task that's initialised most recently. Last month, I left the program with a rather ugly quit mechanism. This time round, I'll look at the functions necessary for menu creation and the subsequent selection of entries, so that we can build an icon bar menu with a quit option.

There are three phases to the installation of a menu system – the first is to listen out for a **Mouse_Click** event, which indicates that the user has 'prodded' our application. If the position of the click and the button used are appropriate for a menu – in our case, a hit on the icon bar icon with the Menu button – a routine is called that creates the menu data block in memory and passes it to the WIMP for display. At that point, the program returns to the polling loop and thinks no more about the matter until it receives a **Menu_Selection** event (event code 9) which signifies that the user has clicked on an item in a menu.

The selection is returned as a series of numbers indicating which item in the menu tree was clicked on; if this is a little too abstract, there's the **Wimp_DecodeMenu** SWI call which converts that data into a textual representation. Once that's over, it's just a matter of performing the appropriate actions and continuing with the program – the menu is cleared away by the WIMP once it's no longer needed.

In order to create a menu, various pieces of information are required – a glimpse of the reference manuals might be handy at this point, but to give you an idea of what to expect, here's a rundown of the data block. The first 12 bytes contain the menu title string, terminated with a control character. The next four hold the colours used for the menu, describing the foreground and the background for the title bar and the work area in that order. The last three words of the header contain the width and the height of the menu items, as well as the gap between them.

From that point on, the rest of the data defines the entries that will make up the menu – these behave very much like text icons and share many of their attributes. Each item takes 24 bytes, and the first four of those bytes are used to hold a series of flags that govern its behaviour. The important ones are bits 0 and 1, which allow you to tick items and separate them with dotted lines, and bit 7 which marks an entry as being the last one in that particular menu.

The data word after that can contain a handle to a submenu or a window that will be displayed if necessary, or -1 if it's just a plain item with no branches attached to it. The next four bytes hold a set of menu icon flags – these are similar to those for normal icons, although some bits are ignored due to the specialised nature of menus. It's important to set the foreground and background colours of the icon by using bits 24-27 and 28-31 respectively, as well as determining the type of the icon by setting the *text*, *sprite* and *indirected* flags (bits 0, 1 and 8) appropriately.

Finally, the last 12 bytes contain the actual text data for the entry, whether it's the indirection information or the text itself. Once the data block has been prepared, **Wimp_CreateMenu** is called with the address of the block in R1 and a pair of coordinates in R2 and R3 to specify where the menu is to be displayed – these are normally gleaned from the pointer position.

At the moment, the menus are hard-coded into the program, and changing information within them or building complex menu structures would be prohibitively difficult – altering the icon flags or the colours of the menu means recalculating the appropriate integer by hand, which isn't efficient.

Next month's task, therefore, is to write an on-the-spot menu builder that takes the appropriate data in a user-friendly format and returns a ready-to-use menu. AU

Rambles through Acorn Wood

Mike Cook presents another selection of problems and solutions

Well, another hectic month has flown by and I wonder what I have done with it. A few weeks ago I got one of those Motorola fax modems and can now send faxes.

The software is supposed to be able to receive faxes as well but that's not too practical as it requires the computer to be running, no kids using the phone and the answer machine to be turned off.

The first time you use anything new like that, and it doesn't work, you are not sure what to think. My first fax was to Israel and went like a dream; my second was to the *Acorn User* office and I couldn't get through, despite trying 20 times over about three weeks.

For some reason my fax modem won't talk to the one at IDG. It also won't communicate with Virgin Radio as my son Alec found out. As these were the first three places we tried, confidence was not high. However, I have faxed dozens of places since, all without trouble, but I still can't get through to *Acorn User* or Virgin. The modems talk to each other but can't agree on a speed and eventually they give up.

You might wonder why I was faxing Israel. Well I have been using some programmable micro-controllers and have a development system that runs on the PC card. Unfortunately I have been having a bit of trouble with it.

It crashes the PC card when you turn it on and off, as you need to when inserting the chips. Also, while it appears to work fine when it comes to programming the *one-time program* chips I get a very poor success rate – 10 duff ones out of 30. These are £4 each, and it has also destroyed five windowed EPROM chips at £14 each.

Technical support for Europe is in Israel. They quickly sent me a replacement board but I had just as many problems with that. I am beginning to suspect something wrong with the PC card/Acorn setup although I don't expect any one to accept responsibility. I'll keep you posted because if I can get it to work reliably it will allow me to make some very nice low cost projects.

Just after I finished my Rugby clock project (March *Acorn User*) I received a new catalogue from Farnell, and there in it was a chip that would have been great to use. All it needs is a 60KHz crystal, a few capacitors and a ferrite rod, if you are interested its number is U422BFL.

After that article was published a friend at the University told me about a similar radio clock bought him by his girlfriend. It had a digital display of the time and was synchronised to the received data. Unfortunately this clock was bought in Germany and so was tuned to the German standard time transmissions.

He discovered this one day when he was rushing around thinking he was late for work. It transpired that this was the day the clocks were put forward in Germany but were not due to be put forward here for another few weeks.

On to the problems which have been coming in thick and fast this month, keep them rolling in.

First a cautionary tale from Tim Grainger of Solihull:

I would like to warn other Acorn users about the problems I have experienced with the Baildon Electronics AnDi Oddule IIC bus I/O device. There are two male connectors on the external unit connected in parallel, so one connector comes from the computer's backplane, and the other can be used to daisy chain other devices to the IIC bus. I use only one connector, thus leaving the other male connector exposed.

Picture the situation: four naked 10mm pins protruding from the surface, carrying +5 volts, 0 volts and two data lines. Unfortunately, a piece of metal came into contact with this connector, and directly short-circuited my computer's PSU via the backplane.

It has taken me a long time to repair my computer, and I was very lucky that no extensive damage was done. I urge other users of this device to take some sort of precaution — perhaps PVC tape or a spare plug covering the exposed contacts.

Yes, a short across the power rails could damage your computer's power supply although it is designed to shut down if it gets excess current. This is normally done by a crowbar circuit which in effect puts a deliberate short circuit across the supply to blow the protection fuse.

While interfacing circuits to a computer with its 5 volt power is normally a lot safer than playing with an electric train set it is a good idea not to wire together power rails or outputs.

John Bennett, a radio amateur from Boston, is having trouble getting a Skyview Modemaster to work with his PC card. It is a package that lets you look at Morse, fax, teleprinter and other data transmissions on the short wave radio. Having exhausted the supplier who knows nothing about Acorn and Acorn who know nothing about the supplier he is stuck. Has anyone managed to get one of these things going?

David Symes is having a bit of trouble with SCSI. He writes:

I'm suffering from some confusion about the subject, as I imagine others might be. I was going to borrow a scanner and as I understand it, a SCSI system should have terminating resistor packs at the start (the card), and end of the chain (the last device).

If so, does it mean that every time I want to temporarily attach a device to the SCSI card, I must open the case and yank out the resistor pack from the CD Rom drive, and then put it back afterwards?

If I do this correctly, how can I both connect the scanner to the SCSI card, and terminate the last device as well, considering that all SCSI cables I've been shown, have the standard 25D to 50 Centronics connector. The only SCSI terminators I've been offered, fit the 50 way Centronics port of the scanner, meaning I couldn't use the 25/50 cable anyway.

Yes, strictly speaking you need to terminate both ends of the SCSI chain. What you need here is a feed-through terminator. This is a device with a 50 way Centronics socket at both ends. You then plug one end into the plug into the scanner and the other into your cable and remove the resistors from your board.

When you return the scanner keep the cable with its termination attached to your computer. These types of terminator are quite common and should be available from any good dealer.

Stewart from Glasgow hasn't been paying

attention! He writes:

Recently I found a project in a book to build a key switch control panel for the BBC Micro, which is controlled from the user port. I decided that it would be a useful circuit to build to provide a means of inputting data to the computer from outside without using the keyboard.

I am using a Risc PC and hope to adapt the circuit to use the printer port of the machine, I haven't got the PRM so I don't know which SWI's to use or which pins to hook on to. Could you help?

Now what's the use of writing the *Run The Risc* articles if you don't read them. Look at the May to July 95 back issues of *Acorn User* – they should tell you all you want to know.

I have included a new page on my web site which summarises the topics covered in the *Run The Risc* articles. It even contains details of articles I have written before they are published.

D. Braine from Andover has two questions:

I have fitted an IDE hard drive to my computer. At the back of the drive are two sockets, one is a standard 'phone socket and the other looks like a small expansion socket. What can be plugged into these?

At work we have an LCD screen that plugs into the computer and sits on top of an OHP machine for slide presentations. Are there any problems attaching this to my Acorn?

While the IDE is a standard interface it is implemented in many ways and without a circuit diagram it is impossible to tell exactly what it is. I suspect it certainly isn't anything that you could use, it's probably a system for fitting a bare drive to share the controller electronics in some proprietor system.

As to the LCD OHP screens I have used these on many occasions and I have had no trouble providing you match the screen mode to what the LCD can handle.

Darren Dootson, who appends the word (possibly) after his signature, wants psychiatric help for his computer:

My computer is having what appears to be an identity crisis. It is an A3000 which has been upgraded with a 25MHz ARM 3 processor, an internal IDE HD interface/user port and 120 Mb hard drive. The operating system is RISC OS 3.11 and the memory has been upped to 2 Mb.

Another Arc owner (ARM3 410) claims that my system will be almost as powerful as an A5000. I have been intending for some time to invest in Sibelius 6 and a sound card like the CC Eagle and Lark cards or the Audio Dynamics DMI cards and add ones.

However, Computer Concepts have recently started to state in their advertisements that the Eagle and Lark cards are not suitable for use with A3/4000 systems. Is this due to the irregular dimensions of the internal podule slot, which is already occupied in my case anyway, or is it due to the slower ARM 2 processor, which I no longer have?

Also, there are two versions of the DMI cards, one intended for use in A3000 machines and one for A5000 / Risc PC machines. I was hoping to get a bolt on multi podule box to attach to my extension socket (if any firms still make such a beast) and therefore install standard size expansion cards.

If this route is possible, do I treat my system as an A3000 or A5000 when choosing which cards to buy? Also would my system be capable of running the A5000 version of Sim City 2000 and other processor intensive software?

Finally, I have a Yamaha MIDI drum machine and Tascam Portastudio four track tape recorder, both of which can be MIDI synchronised to standard sequencers like Steinberg's Cubase for the Apple Mac. Will Sibelius 6 do this, or any other program like Serenade or Rhapsody 3? The advert literature of all of these programs does not mention such a facility.

One of the problems with a computer that can be upgraded is how full an upgrade can be achieved. Basically, as you say, the A3000 has a physically different internal podule. However, as I showed in Christmas 95 issue of *Acorn User*, the electrical signals are identical. Therefore, if you have some sort of electrical interface there should be no problem.

There are subtle differences in all the Risc machines but, by and large, the A series are very similar to each other. As far as I know Sibelius is a package for writing music and while it has MIDI capabilities it is not as flexible as a sequencer.

However, what you want to do is to direct these questions to the producers of these products. If I say it will work and it turns out it won't you have no comeback. If you get the producer to say it will work, and preferably in writing, if it does not work you can get your money back under the Trade Descriptions Act.

I do appreciate that many producers will not stick their necks out and endorse some strange combination they have probably never heard of, but keep on trying. There are many good dealers out there who will do this digging for you in return for a sale.

Finally Alan Angus from Blyth produces the first piece of direct feedback from this column:

I read your article in the March issue of *Acorn User* with interest, and one thing in particular caught my attention. You say that there is no heavyweight symbolic mathematics package for Acorn machines. I am glad to be able to tell you that there is a very powerful system ported to Acorn machines, Reduce 3.5.

It has a fairly basic text interface and no built-in graphics but it is supplied with a copy of the excellent graph drawing program !Gnuplot and links to this for plotting in 2D or 3D.

I have a copy of this and have played with it a bit, but its features go way beyond my needs and abilities as an A-level maths teacher. There is a demo version available, it includes full information about the software, price and supplier.

This is an excellent piece of software, and is probably unknown to almost all Arc / Risc PC owners as it was only advertised in the small ads section of A.U. for a short time. I wonder how many other high quality software items have never taken off commercially because the developer/porter could not afford to advertise widely?

Excellent through Reduce is, I would not class it in the heavyweight division – you really need to see what the likes of Mathematica, Math Cad, and Maple can do. I would class it as a welterweight package. However, that last point is a very good one there must be many excellent packages out there that are under-advertised due to lack of funds.

So let's do something about it. Our next CD-Rom (with the July issue) is going to be presented in HTML format. So all you developers out there who want to get you products more widely known, send in a presentation of your product as HTML pages with screenshots or even a demo and we will try to put it on.

Full details on how to submit your HTML pages are available on request in writing, fax or e-mail (don't phone) from the *Acorn User* offices at the usual address.

Alan goes on to ask about Linux on the PC card. For those of you who don't know Linux is a public domain implementation of the guru-friendly operating system Unix. There are currently two flavours under development, Linux for the X86 series of processors and Risc IX for the native Risc machines.

Both can be made to run but take a vast amount of disc space, about 400M, large memory, over 24M and are prone to crashing. At the moment this is not for the faint-hearted but when things settle down I will write something about it.

You can e-mail Mike Cook: auqanda@idg.co.uk AU

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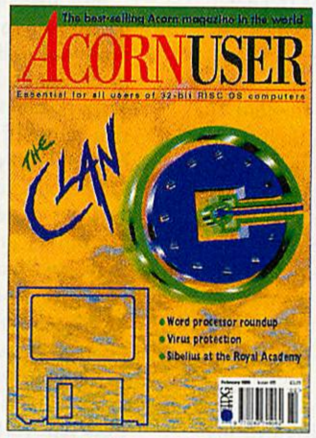
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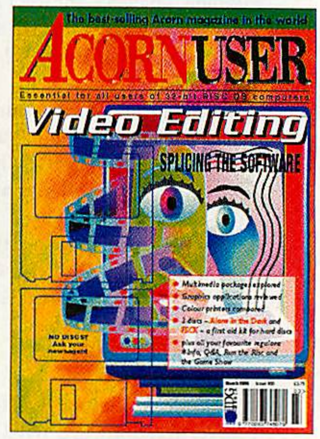
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Acorn Customer hotline

This month Dave Walker departs from his usual column

!System: The Acorn Module List

By popular request I'm presenting a table of the versions of Acorn and Acorn-licensed modules which can by agreement be shipped in a RISC OS distribution. The columns in the table detail:

- Whether a soft-loadable version of the module (which could reside in !System) exists, and if so, what its version number is. Be aware that not all the soft-loadable modules are available; those which are available as Freeware can be found on ftp.acorn.co.uk, others require a binary distribution licence. Also a soft-loadable version of a module may not be identical to a version in ROM which has the same version number.
- Versions of the module which are shipped as standard in given versions of RISC OS
- Restrictions on compatibility or distribution with certain versions of RISC OS, and whether the given soft-loadable version of a module forms part of a separately-licensed 'bundle' of modules (for example, the Toolbox)

'Latest version' numbers are correct as of 07/03/96.

In addition, the following explanatory notes apply to specific entries in the table:

(1) CDFS is subject to special licensing, and distribution should only occur under terms agreed upon with Acorn.

(2) The status of Squash for RISC OS 2 is currently under review.

(4) No soft-loaded version of CLib is needed on RISC OS 3.10 or later; appropriate code is in ROM.

(5) This version of the Econet module is supplied on the Risc PC Econet card.

Note also that, for their current purposes, most of the soft-loadable modules have no user-level extended functionality over the latest ROM version; in the case of the network modules, for example, Internet 4.08 shares its user and programmer interfaces with 4.06. AU

Leafname in !System	Softloadable Module Version	RISC OS Version 3.10	3.60	3.50	Identified Subsets: NIC card / Podule	3.10 only	3.10 or later	3.50 or later	Toolbox only	Network only
ABCLib	4.02	-	-	-	-	-	Yes	-	-	-
ABIMod	2.86	-	-	-	-	-	Yes	-	-	-
BASIC64	1.05	-	-	-	-	-	Yes	-	-	-
BASIC64	1.14	-	-	-	-	-	-	Yes	-	-
BorderUtil	0.05	-	-	-	-	-	-	-	Yes	-
Colours	1.57	1.07	1.64	1.61	-	Yes	-	-	-	-
CLib (4)	-	-	-	-	-	-	-	-	-	-
DDEUtils	1.53	-	-	-	-	-	-	-	Yes	-
DOSFS	0.62	-	0.62	0.47	-	-	Yes	-	-	-
DragAnObj	0.02	-	0.02	-	-	-	-	-	Yes	-
DragASprit	0.10	0.03	0.11	0.10	-	-	-	-	Yes	-
DrawFile	1.43	-	1.46	-	-	-	-	-	Yes	-
FilterMgr	0.09	-	0.11	0.09	-	-	-	-	Yes	-
FPEmulator	4.04	2.87	4.04	4.04	-	Yes	-	-	-	-
FrontEnd	1.16	-	-	-	-	-	-	-	Yes	-
Hourglass	2.10	2.08	2.11	2.10	-	Yes	-	-	-	-
JCompMod	0.05	-	-	-	-	-	-	Yes	-	-
PhotoCD (1)	0.25	-	-	-	-	-	-	-	-	-
Picker	0.31	-	0.36	0.15	-	-	-	-	Yes	-
SCSIFiler	1.10	-	-	-	-	-	Yes	-	-	-
SerialDev	0.22	0.21	0.34	0.31	-	Yes	-	-	-	-
SerialUtil	0.02	-	-	-	-	Yes	-	-	-	-
Squash (2)	0.22	0.21	0.24	0.21	-	-	Yes	-	-	-
TinyStubs	0.02	-	0.05	-	-	-	-	-	Yes	-
ColourDbox	0.15	-	0.14	-	-	-	-	-	Yes	-
ColourMenu	0.17	-	0.17	-	-	-	-	-	Yes	-
DCS_Quit	1.06	-	1.06	-	-	-	-	-	Yes	-
FileInfo	0.14	-	0.14	-	-	-	-	-	Yes	-
FontDbox	0.14	-	0.14	-	-	-	-	-	Yes	-
FontMenu	0.17	-	0.16	-	-	-	-	-	Yes	-
IconBar	1.12	-	1.11	-	-	-	-	-	Yes	-
Menu	0.24	-	0.23	-	-	-	-	-	Yes	-
PrintDbox	0.09	-	0.09	-	-	-	-	-	Yes	-
ProgInfo	0.09	-	0.09	-	-	-	-	-	Yes	-
SaveAs	0.12	-	0.11	-	-	-	-	-	Yes	-
Scale	0.11	-	0.11	-	-	-	-	-	Yes	-
Toolbox	1.36	-	1.36	-	-	-	-	-	Yes	-
Window	1.31	-	1.30	-	-	-	-	-	Yes	-
WimpMan	1.92	-	-	-	-	Yes	-	-	-	-
ThreeTen	0.02	-	-	-	-	-	-	-	Yes	-
GameModes	1.15	-	2.00	2.00	-	Yes	-	-	-	-
DCI4 Network Modules										
AUNMsgs	0.06	-	0.06	-	-	-	-	-	-	Yes
Econet	-	5.62	-	-	5.70 (5)	-	-	-	-	Yes
BBCEconet	-	0.14	0.16	-	-	-	-	-	-	Yes
Net	6.15	-	6.12	-	-	-	-	-	-	Yes
NetI	6.15	-	-	-	-	-	-	-	-	Yes
NetFS	-	5.78	5.90	-	-	-	-	-	-	Yes
Netfiler	-	0.72	0.74	-	-	-	-	-	-	Yes
NetStatus	-	2.06	2.06	-	-	-	-	-	-	Yes
NetPrint	-	5.43	5.53	-	-	-	-	-	-	Yes
NetMsgs	-	-	-	-	-	-	-	-	-	Yes
Internet	4.08	-	4.03	-	-	-	-	-	-	Yes
Ether2	3.55	-	-	-	-	-	-	-	-	Yes
MBufManager	0.13	-	0.13	-	-	-	-	-	-	Yes
ShareFS	3.38	-	2.34	-	-	-	-	-	-	Yes
Freeway	0.24	-	0.24	-	-	-	-	-	-	Yes
Bootnet	0.88e	-	0.88	-	-	-	-	-	-	Yes

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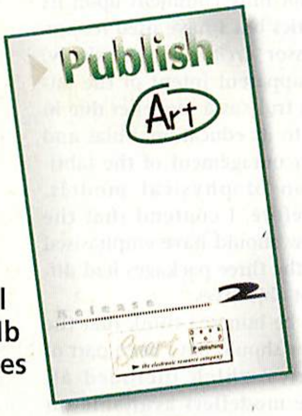
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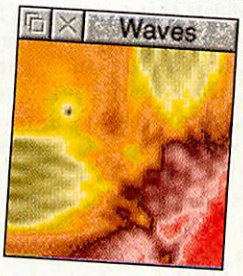


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Letters



Misleading on 3D modellers review

Acorn User is to be commended for its recent coverage of 3D modellers which I have enjoyed reading: however I would like to venture some observations. I hope they are taken as such since I certainly do not intend to criticise but would suggest that the review could be misleading due to the approach taken.

My starting premise is that a modeller should be capable of representing real objects. However, this statement is not really as clear cut as it would initially appear because reality could be represented at one extreme as pseudo-artwork by a static 24 bpp image, as in ray-tracing, or at the other a computer representation of physical object, as in CAD/solid modelling.

By profession my particular interest is in the latter, with a tendency towards virtual reality, and not particularly in graphical design/art. This said, I admire the effects of ray-traced images but suspect that I have not seen one which accurately represents a real item. What I am interested in is making the computer equivalent of a physical model of a product.

This is the crux of my observation in that the reviews by *Acorn User*, and others to be fair, have been inadvertently biased in favour of the graphical/art uses, even to the extent of unfairly criticising an ancient but still excellent modelling package (*Euclid*). There is no argument that the rendering of models in *Euclid* cannot be compared with those currently coming on the market but its ability to cater for complex curves certainly can. Even though it has always been sold as a 3D Draw it is most certainly not "Draw with an extra dimension bunged in" as anyone who has used it for modelling will testify. However, this is not the purpose of my observations.

The tendency is for the art modellers to emphasise the quality of the view achieved whereas for the CAD type modeller ease of use, along with the ability to represent the product with the required accuracy, is an essential. I know there are exceptions but the trend is for the former to consist of models containing simple geometric shapes whilst the latter are more complex.

Therefore, if the bias/preference/experience of the reviewer is not stated the reader could well be confused into mistakenly thinking that certain packages are preferable whilst others are not worth considering. The purpose of the review is surely to inform, without bias, the readers who do not have access to the product and I am sure that was your intention.

Of great significance, with regard to the role of magazines like *Acorn User* and software reviews, is the trend of both 2D and 3D software creators to rely heavily upon DXF files in their promotion. Examples of this are the Cadillac and the Space Shuttle, all of which demonstrate again the viewer capabilities.

By implication, the reader assumes that he can use the package to create a similar model, which may or may not be true. Surely it is a moral, if not legal, requirement for the magazine and software writer to be completely honest and not mislead the reader.

Your February article really considered *Merlin* and *Top Model*, with *Da Vinci* being dismissed, in passing, as simple. Now, due to its ancestry *Merlin* is primarily a ray-tracer with the obvious emphasis, the editor does show promise but suffers from stability problems.

Top Model falls somewhere between the two extremes in that it is not a ray tracer nor is it easy to see how it can be used as a modeller in my sense since the *Acorn User* demo had no reference to coordinates and only demonstrated the viewer capabilities.

I have only seen *Da Vinci* at Acorn World and BETT and so cannot fully comment upon its abilities but I have used its predecessor *Architech* extensively. The apparent intent of the latter is truly as a modeller due in part to its educational bias and its encouragement of the fabrication of physical models. Therefore, I contend that the review should have emphasised that the three packages had different objectives.

To be honest I think that the review should have been part of a series which included all those modellers available on the market, old and new, Acorn, PC and Amiga. I think that some of the older ones still have a role to play and hope that someone would develop a file converter to facilitate their use in the appropriate circumstances.

I think the review should have included *Architech* if only to emphasise the modelling aspects. *Architech* is certainly easy to use as evidenced by my 11 year old daughter using it for Design and Technology homework and in this role it is without equal. However, to be fair, until October it was really limited to the more architectural model, as its name would imply, since single facet modification is not easy.

Since then Aspex has released a Text to *Architech* converter. This latter allows me to create a text file from a spreadsheet of coordinate data and with this I can accurately model a ship's hull in minutes, editing of these complex shapes is achieved outside the modeller using the spreadsheet and by reloading.

While this can appear tedious it has the advantage in that the data file exists separately and encourages a disciplined fully configured object-oriented approach whereby the object is imported and then transformed. Since it creates an accurate model of this data the latter can also be subject to engineering calculations, greatly extending the use of the software.

One of the frustrating occurrences is the fact that polygons tend to become transparent as the model is rotated, a factor which is exhibited by *Top Model*. This seems to be linked to the precise definition of the boundary of the polygon and its neighbours. It seems to be the result of the use of the integer, as against floating point maths since it does not occur within the spreadsheet generated bezier patches. If this is the case then Aspex, with *Da Vinci*, will have provided the next solution since it will be the only candidate that I am certain has this floating point of definition.

A second observation is that the *Architech* manual is a very good introduction. However, the software is so comprehensive that it takes months of investigation and experimentation (including conversations with Aspex) to identify its full capabilities and the tricks which can be used. The only way out that I can see is to set up a user group or for a magazine like *Acorn User* to provide a forum for 3D techniques in addition to that provided for graphics.

This aside, the approach taken by Aspex to its market is

commendable in that its modelling range will soon become: *Spex, Architech, Da Vinci.* It is in this way able to support the growing capabilities of budding 3D modellers from primary school through to enthusiast/professional in easy stages. This reflects a definite upgrade path matching the needs of the user and is another feature which was not covered in the review, since it cannot be assumed that only experienced modellers are interested. In this regard I suspect that the overly complex interfaces of *Merlin* and *Top Model* will serve to ensure exclusivity of the 3D modelling domain.

Ian Mackereth,
Trowbridge, Wilts

Thanks for your interesting letter, we may well do an in-depth analysis of the various packages individually at a later date. The only thing I'd disagree with is that we dismissed Da Vinci in fact we pointed out that it was being further developed and the later versions would be extremely powerful.

Buy British!

Being English I have supported the Acorn computers from the Electron - BBC - A3000 and now a Risc PC 600.

I have recently returned to New Zealand after a stay of three years in England and found the argument between Acorn and the PC endemic of the whole English outlook on life. If the British people were more patriotic this whole question would be put in its correct place.

If Acorn had been a French company, the French government would make sure that the home grown computer was the one to use.

School governors, who seem to be putting forward self interest, because they use PCs at work and PCs are the industrial standard, should be informed of what PC stands for. I want Acorn to grow because like many other people I cannot afford to be changing a home computer all the time and I feel it is in the hands of the British people to have some pride in a home grown product and buy British. (As well as New Zealand lamb, cheese, butter and fruit).

Alan Shooter,
New Zealand

Competition winner

May I express my sincere thanks to *Acorn User* for having selected my humble self as one of the three winners of the New Year hamper competition. I was actually reading the magazine in my tea break at work and got one of my colleagues to confirm what I thought I saw!

I'm one of the 'born losers' of this world usually and, if I remember correctly, I only sent in my entry a couple of days before the closing date, having completed it much earlier and not posting it. The parcel arrived a few days later although, unfortunately, despite being well packed, the CD attached to the Eesox clock had snapped right across the middle.

However, the clock works well and a bit of modelling glue will fix the crack all right. The interesting mouse mat and the burger mouse are now actively in use. My thanks to the companies who supplied the prizes, and to *Acorn User* for proving that, for once, my competition entry hadn't gone in the waste bin!

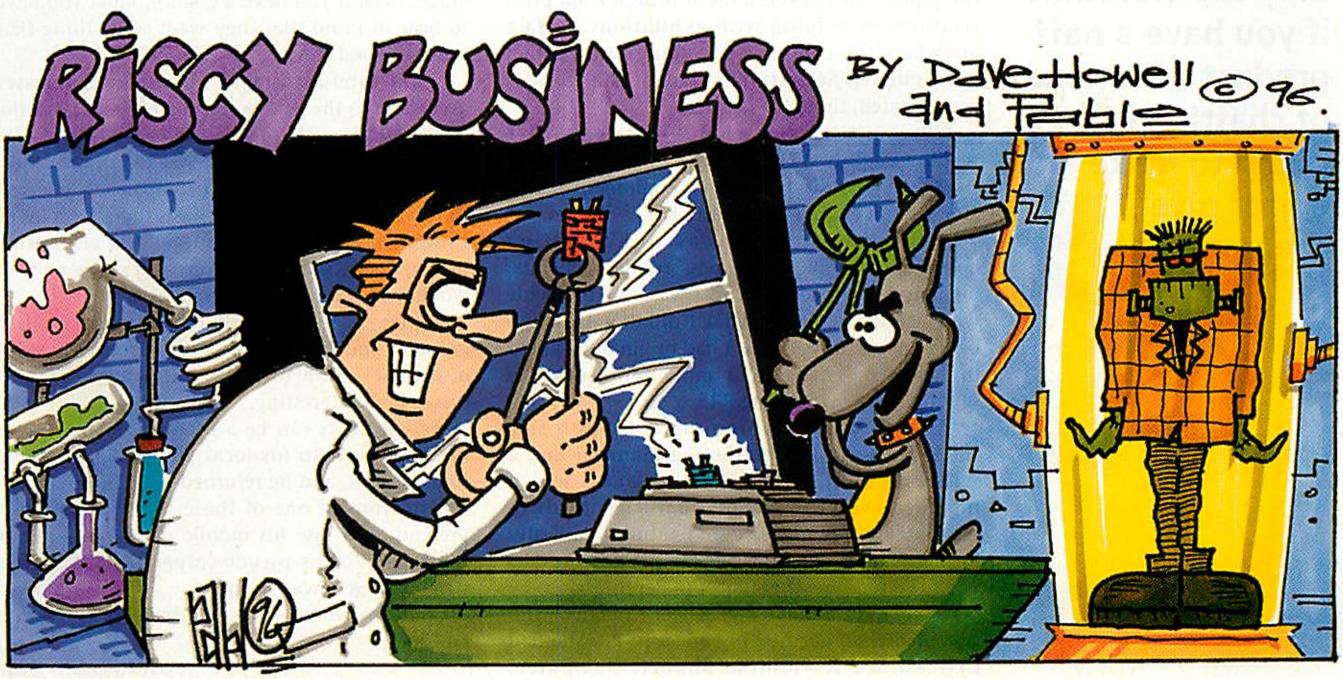
I was actually attracted by the T-shirt transfer package. Last September you had a special offer with the Quill Marketing transfer kit which I had intended sending away for, but forgot. I am involved in a tram restoration group in Southampton and responsible for sales items (of which we have only a few as access to our workshop can only be done for pre-arranged groups).

We had discussed T-shirts with some sort of tram logo, but it is quite expensive to do and our sales would be very limited. So these do-it-yourself transfers might be just what we are looking for. I recently bought a Canon BJC-600e, after having used a BJ-200 for 2 years (which I am keeping as my standard monochrome printer). I was a little worried by the printer, it took me quite a long time to get all four colours printing and the next time I used it, about two weeks later, two had to be cleaned again. I always use the Canon cartridges, though, so I'm keeping my fingers crossed that I won't have any problems. We have Hewlett Packards at work, and I find them far inferior to the Canons, as well as taking up more space.

I have had subscriptions since *The Micro User* No.1, although it was about a year later that I bought my BBC-B. Since 1973 I have been newsletter editor for the Southampton University Industrial Archaeology Group, starting with a basic typewriter on Roneo stencils, then using a daisywheel to cut the stencils using 'View', then I got an old electronic stencil cutter, and three years ago I bought an A5000, after which along came *Impression Publisher*. but the stencil cutter is still used as it is much cheaper to duplicate than photocopying.

Once again, many thanks for the prizes, and keep up the good work on what, if I recall correctly, used to be referred to by *Micro User* as *Squirrel Abuser*.

Angela Smith,
Southampton



The Regan files


Richenda Wood

PR? *Sweetie, it's about names, glamour, style! Bottles of Bolly at every launch – get them drunk enough darling and they won't care what the product is.*

If you think you know PR because you've been watching the re-runs of *Absolutely Fabulous* on BBC1, think again. Richenda Wood owns and runs Livewire, a company which handles the PR for several companies in the Acorn market. She is as comfortable arranging for a mouse handler to bring 18 live white mice to climb over a client's trackerball range as she is hiring out part of Alton Towers for the launch of a maths program. She edits an electronics magazine too, so she actually *knows* something about the products she promotes. And she makes her own coffee.

'To start with the basics: most people don't understand what 'public relations' is,' explains Richenda. 'It's a broad term which basically means presenting the image of the company to the public. This covers a lot of things, from press relations to helping with exhibitions, in fact anywhere the company is coming into contact with clients. Seventy per cent of the work is press-related, though.'

PR wasn't her first choice of career. After reading English at Queen Mary College, London, she got a job editing a school equipment magazine and an engineering journal.

'While I was there I was always getting approached by PR companies,' recalls Richenda. 'Being on the receiving end I was able to decide what I did like – and what I didn't. Although being an editor was what I had originally wanted to do, I soon changed my mind and decided to set up on my own, doing PR.

'As part of the learning curve, I took a side track for a bit as a marketing manager and a senior account executive on accounts which included everything from pharmaceuticals to computer companies. I didn't think it was silly to diversify so much because to get good results you need to know the subject in depth.'

It was John Simnett (ex MD of Cumana) who gave Richenda her first big break in PR. She had first worked for John at Simnett Computers when she left university and found him to be a great inspiration, so when she decided to set up her own company she sought him out for some advice.

'He recommended that I go to see a friend of his called Simon Shute who ran a company called Microwave Kingston. I walked through the door, thinking I was going to get kicked out. Although John had told him I was coming, he did not know who I was, so it was cold calling. He told me to write him a proposal – I did, and that's how I got my first client.'

'Having been on the receiving end of the Edinas of this world, I know only too well that if you have a naff product no amount of chatting is going to make an editor give it coverage.'

Richenda's decision to specialise in high technology including computers, electronics and data communications was a wise one – Livewire has never been short of work.

She stresses that Livewire's policy is no-nonsense PR: 'Having been on the receiving end of the Edinas of this world, I know only too well that if you have a naff product no amount of chatting is going to make an editor give it coverage. Even if you have a good product you have to bear in mind that they want some thing that makes a good story.

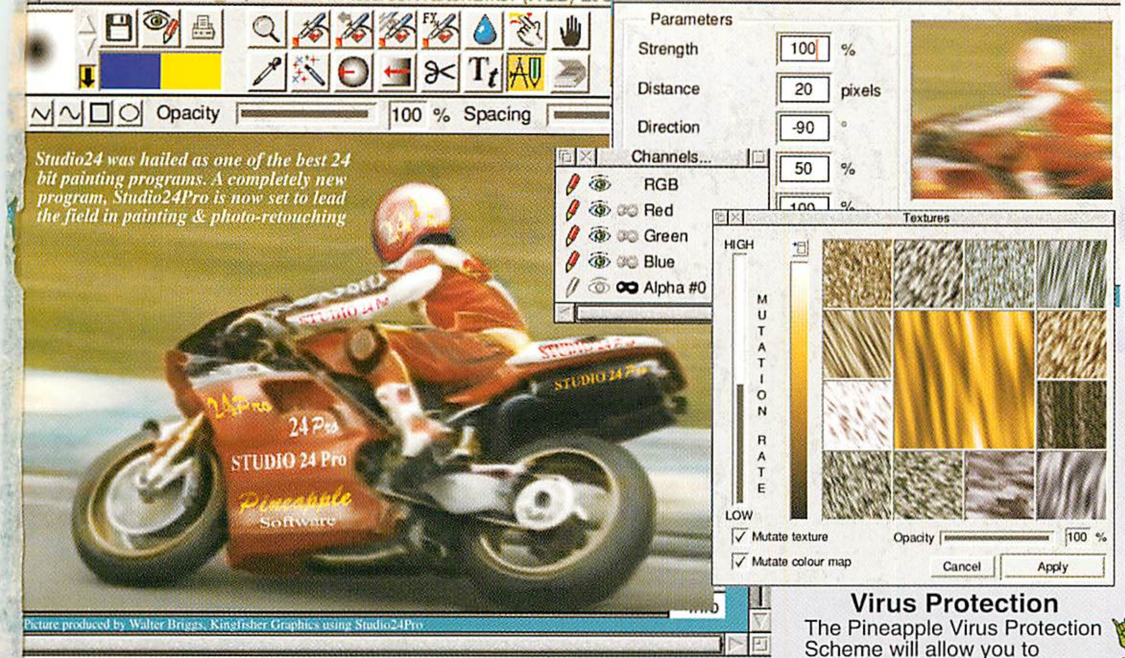
'I am careful to make all our press releases accessible to the general readership – not just the technical wizards. I never assume that the reader is going to be stupid but I do try to take an objective view of things, when a company is involved in its work on a day to day basis there are a lot of things that it takes for granted. As an outside person I can ask the questions that someone who would buy the products would ask.

'I place a lot of emphasis on good quality graphics and photographs – there has to be a bit of artistic vision to make things like CD-ROM drives look interesting.

'People shots can be a problem; I sent one of my clients off to his local photographer to get some photos, and he returned with shots of himself in front of one of those blue backgrounds pretending to use his mobile phone. It was just this type of corny pseudo corporate images I was striving to get away from.'

Could be worse – he could have been wearing *La Croix*.

Jill Regan AU



Features

- Fast Virtual Memory
- Random mutated texture generation
- Undo brush, Texture and Filter brush
- Over 40 pre-defined filters including Spin blur, Motion blur, Lighting etc, etc.
- PhotoCD and Scanner input
- Merging of Sprites, Jpegs, Tiffs & Draw files.
- Built in Draw file creation
- RGB, CMYK or Indexed channel modes
- Up to 16, 8 bit mask channels
- Filter preview window (shown above left)

'Many Acorn User front covers have been created from scratch using this program alone, concrete proof of the power of this creative tool'. - *Acorn User March 96*

Studio24Pro
£149.87 inc vat



Removable Harddrive System
Total Data Security & Harddisc Backup

The removable harddrive system fits into a 5¼" drive slot in the RiscPC and harddrives are available in many sizes which can simply plug in and out of the slot as required. The drive may be locked in place to prevent unauthorized removal. For total security the drive may be removed and stored in a safe place to prevent unauthorized access to your data. Because the removable drives are available in any size (up to at least 4Gb) they are also ideal for use as backups for existing harddrives, and may be easily transported between different computers for rapid transfer of large datafiles. The system is available for use with both IDE and SCSI filing systems. External boxes are available to enable SCSI removable drives to be used with older Acorn models. Please 'phone for details. See opposite for prices.

PAL TV Coders



PLC/3 £104.57

The PLC/3 PAL TV Coder works in any of the 'Standard' Modes, e.g. mode12 and 15 on all Acorn computer models. The PLC/3 has a 15 pin RGB output for the monitor, a BNC for video and an S-VHS connector for S-Video. The PLC/3 will work with RiscPC computers although the AKF60, AKF85 and AKF90 will not work at the same time.



AVK/3 £355.00

The AVK/3 will work with all computer models in all screen modes up to 800 x 600 resolution in 16 million colours. It has a remote control with facilities for zooming, freezing & panning the TV picture. Ideal for lectures and demonstrations etc. The AVK/3 includes all connecting cables including a SCART which gives TV frequency RGB O/P for large screen TV's, a phono socket for composite video and an S-VHS socket for S-Video.

ArtWorks Video Tutorial



A Brand new product from Pineapple is this VHS Video Tutorial covering the use of ArtWorks.
Walter Briggs is the tutor for this 1 hour video which shows how to use all the ArtWorks tools and then goes on to show how Walter produced his famous Tiger head picture. Walter also draws an impressive landscape picture which can be copied by those with no artistic talent at all!

ArtWorks Video Tutorial £19.99

24 Bit Colour Scanners



Pineapple can offer a wide range of Flatbed A4 colour scanners starting from as low as £359 including software and VAT!
The Epson range is currently the most popular although Canon are expected to release a new scanner to replace their IX-4015 shortly. The cheapest in the Epson range is the GT5000 with an optical resolution of 300dpi. This is adequate for virtually all home use. The GT5000 is available with either a parallel or a SCSI interface. The GT8500 has an optical resolution of 400dpi and comes with both parallel and SCSI interfaces. Finally, the GT9000 is the top of the range with an optical resolution of 600dpi and both parallel and SCSI interfaces. Imagemaster and Twain software are included in the price, but we also offer our Studio24Pro Photo re-touching software at just £80.00 inc vat with every scanner purchase.

Virus Protection



The Pineapple Virus Protection Scheme will allow you to detect and remove over 100 viruses from your Acorn computer.
'If you're interested in virus protection, join the Pineapple virus protection scheme and buy Killer. Accept no alternatives.' - *Acorn User Feb 96*

Multimedia Speakers

Yamaha 10 Watt YST-M10	£63.00

A4 Colour Scanners

Primax Flatbed A4	£359
Epson GT5000 (parallel)	£425
Epson GT5000 (SCSI)	£499
Epson GT8500	£569
Epson GT9000	£699

All scanners include Imagemaster & Twain. Studio24Pro at just £80.00

A7000 Computers

4Mb	HD425	14" Mon	£1019
4Mb	HD425CD	14" Mon	£1139

RiscPC 600 Computers

4Mb	HD425	14" Mon	£1325
4Mb	HD425CD	14" Mon	£1450
4Mb	HD425	17" Mon	£1699
4Mb	HD425CD	17" Mon	£1825

RiscPC 700 Computers

5Mb	HD425	14" Mon	£1550
5Mb	HD425	17" Mon	£1925
5Mb	HD425CD	14" Mon	£1699
5Mb	HD425CD	17" Mon	£2049
10Mb	HD850	14" Mon	£1949
10Mb	HD850	17" Mon	£2299
10Mb	HD850CD	14" Mon	£2069
10Mb	HD850CD	17" Mon	£2425

PC Cards

	Separately	with RiscPC
SXL-33 Card	£233.83	£116.32
DX2-66 Card	£289.00	£169.00
DX4-100 Card	£349.00	£229.00
586-100 Card	£579.00	£459.00

CDRom Drives

x4 Speed CDRom	£120.00
x6 Speed CDRom	£233.82

Memory Upgrades

1Mb to 2Mb Vram	£116.32
2Mb Vram	£233.83
4Mb SIMM Ram	£ 65.00
8Mb SIMM Ram	£129.00
16Mb SIMM Ram	£249.00
32Mb SIMM Ram	£775.00
RiscPC Sound Card	£70.44

'Phone for latest SIMM prices !!

All our prices INCLUDE 17.5% vat & delivery!

Printers



Citizen Print*iva* 600C

Citizen		
PRINT*iva* 600C		£399.00
Hewlett Packard		
Laserjet 5L	4ppm	£458.00
Deskjet 600		£231.00
Deskjet 660	colour	£315.00
Deskjet 850	colour	£415.00
Canon		
BJC600E	colour	£375.00
BJC610	col 720dpi	£415.00
BJC4000	colour	£276.00
BJC4100	col 720dpi	£276.00
BJC200	mono	£205.00
BJC210	(col option)	£222.00
Epson		
Stylus Colour II		£329.00
Stylus Colour IIS		£244.00
Stylus Pro XL (A3)		£1079.00

3.5" Bare Harddrives

540Mb	IDE	£149.00
850Mb	IDE	£169.00
1.0Gb	IDE	£225.75
1.0Gb	SCSI	£235.00
2.0Gb	SCSI	£659.00
4.0Gb	SCSI	£938.00

Removable Harddrives

IDE Mounting Kit		£ 25.00
540Mb	IDE	£168.00
850Mb	IDE	£188.00
1.0Gb	IDE	£244.00
SCSI Mounting Kit		£ 29.00
1.0Gb	SCSI	£255.00
2.0Gb	SCSI	£679.00
4.0Gb	SCSI	£958.00
External Mounting Box		£ 89.00

SCSI Systems

SCSI Card	£116.32
SCSI Internal Cable	£ 9.99
SCSI External Cable	£ 19.99
SCSI II Card	£189.00
SCSI II Internal Cable	£ 9.99
SCSI II External Cable	£ 22.32

Monitors

14" 0.28mm DPMS	£179.00
14" 0.28mm MPRII	£189.00
15" 0.28mm MPRII	£309.00
17" 0.28mm MPRII	£556.00
21" 0.28mm MPRII	£'Phone
Iiyama Visionmaster	
17" 0.26mm MF8617E	£635.00
17" 0.25mm MF9017E	£699.00

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Studio24Pro at just £49.00 with any RiscPC purchase
Studio24Pro at just £80.00 with any colour scanner
FREE membership of the Virus Protection Scheme with any RiscPC

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A Quad speed CDRom drive for just £60 with any RiscPC

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'Pineapple offer some of the finest and friendliest after-sales support you will find' - Acorn User Mar 96

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CENTRES OF TECHNOLOGY Acorn CENTRES OF TECHNOLOGY



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Puzzled by the complexities of networking?
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